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ORIGINAL ARTICLES.

MEDICINE AND SUPERSTITION.[1]

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ONCE before, on the 13th day of June, 1866, thirty-four years ago, your honorable body assembled here in annual session. The records of that meeting are very interesting, when compared with the proceedings of your later sessions.

The place of meeting was in a hall over a furniture store, entered from an alley, and not much longer than the room now belonging to the Luzerne County Medical Society. The total attendance, including delegates and permanent members, was sixty-seven, to which were added the names of nine members of the local county society, not delegates. The entire membership of the Luzerne County Medical Society, which then included Lackawanna, was twenty. Of the delegates from the county, not one is in practice and only one, Dr. A. L. Cressler, is living. But what changes thirty-four years have wrought! The borough of 1866, with less than 10,000 people, has become a city of over 51,000 within its borders, and a suburban population of an equal number. The county has been divided and each division represents an active medical society, and their combined membership reaches one hundred and seventy-five. From an attendance of sixty-seven, your later sessions have had anywhere from two hundred and fifty to four hundred members present.

One moment let me pause for a thought of those—"lost to sight, to memory dear"—who have been called to their reward since last we met. Their names as far as reported are:

John Ashhurst, Jr., (1881) Philadelphia; Samuel P. Bartelson, (1879) Clifton Heights; Nathaniel W. Brown, (1890) Pittsburgh; John H. W. Chestnut, (1876) Philadelphia; Robert B. Cruice, (1879) Philadelphia; Alexander Craig, (1869) Columbia; Milton S. Erdman, (1894) Richland Center; Quintus C. Farquhar, (1882) California; Albert Fricke, (1862) Philadelphia; Robert G. Furst, (1896) Lock Haven; Robert M. Girvin, (1880) Philadelphia; William B. Hartman, (1882) St. Mary's; Columbus W. Krise, (1877) Carlisle; Edward Lyon, Sr., (1871) Williamsport; James McCarrell, (1878) Allegheny; John B. McCloskey, (1899) Mill Hall; David S. Marquis, (1863) Rochester; Charles S. Shaw, (1890) Pittsburgh; S. S. Towler, (1893) Marionville; Mark G. Whittier, (1892) Clearfield.

No better tribute can we pay them than to say in the words of our doctor-poet, Weir Mitchell:

> "To give what none can measure, none can weigh,
> Simply to go where duty points the way.
> Faith, honor, duty—duty calmly done,
> That shouts no self-praise o'er a victory won;
> One bugle note their battle call,
> One single watchword, DUTY—that is all."

Dr. Dennis, in his address of welcome to you in 1866 said, "We need your help to stay the flood of medical nonsense and knavery which seems to be sweeping over the land as with a besom, with redoubled energy, deluding and destroying the weak, the ignorant, and the foolish."

These words are very fitting to-day, for "the flood of medical nonsense and knavery" has risen to an astonishing height; what with Dowieism, and Osteopathy, and Christian Science; the divine healer, the magnetic healer, the fire doctor, the powwower—the honest medical man, especially if he be young, becomes disgusted and discouraged with his fellow men, and bewails the degeneracy of the times; but to such I would say, "Say not that the former days were better than these, for thou dost not inquire wisely concerning this." The history of the human family is a history full of machinations of the quack, the sorcerer, the charlatan. Let me direct your attention briefly to a few propositions which appear easily demonstrable: (1) There is no limit to human credulity. (2) Human credulity is so great that any pretense to cure, however ridiculous, has always found adherents. (3) That a method of healing that claims to be supernatural in its power, that surrounds itself with an air of mysticism, claiming some mysterious, magnetic agency not possesed by others, has always found followers in great numbers. (4) Numbers and intelligence of followers is no evidence of the truth of a method of cure; the most ridiculous and preposterous theories and methods have had hosts of followers, often from the intelligent classes.

There is no limit to human credulity. Carlyle once said, "England has twenty millions of people, nearly all fools," and it is surprising how far this remark of the cynical old philosopher applies to humanity in general. The three most sacred interests of the human family are the immortal soul, the almighty dollar, and the conflict with disease and death; religion, finance, and medicine.

> "All hail, Religion, maid divine!
> Pardon a muse so mean as mine
> Who in her rough imperfect line
> Thus dares to name thee."

[1] Address delivered at the fiftieth annual meeting of the Pennsylvania State Medical Society, held at Wilkes-Barre, Pa., Sept. 18, 19, 20, 1900.

But what will not people believe in thy name! What blind credulity was needed to make John of Leyden possible! Did ever fanatic or imposter propose a belief too ridiculous, or too wicked to find followers?

Much as men love their souls, and their bodies, it seems at times they love their money more—but how they are fooled! I need but to refer to John Law and his Mississippi scheme, to De Lesseps and his Panama Canal Company, or to Plunger Miller; Law, who bankrupted Paris with a scheme that existed simply on paper, De Lesseps who borrowed two hundred and sixty-five million of dollars from the French people, from which there was no return, and Miller who offered ten per cent. a week, five hundred and twenty per cent. a year, for money, and got it in enormous quantities. But it is in the matters of health and sickness, in the conflict with disease and death, that the human family has shown its greatest credulity, its greatest capacity for being deceived. And here I will appeal to the logic of events by briefly recalling the facts of history, which will, I believe, serve as a complete demonstration of my remaining propositions, and it shall be my purpose in this discussion to be entirely just and to

"Nothing extenuate,
Nor set down aught in malice."

Nor shall it be my purpose to inveigh against any so-called medical sects who are practising under legitimate conditions. For myself I see no justification for medical sectarianism; all honest investigators, all men liberally educated along medical lines, embracing the fundamental branches of medical education: anatomy, physiology, chemistry, therapeutics, pathology, bacteriology, surgery, and the practice of medicine—all these ought to be united under one banner in the contention against charlatanry, quackery, and deception of every kind. The establishment of State Boards of Medical Examiners, and State Boards of Health, where men of different faiths are cooperating, have a tendency to this end. The size of a dose of medicine is a little thing upon which to split, and retaining a distinctive sectarian title as a trade mark is certainly not becoming honest, scientific investigators.

First then let us momentarily consider Relics, Shrines, Apparitions—agencies supposed to be supernatural and religious in their character. Pettigrew says that to the people "Whatever is beyond their sagacity is assigned to invisible agency." In all ages, even at the present time, people have rushed in hordes to be healed by some relic of a saint, or where some apparition has been observed, or to some holy well or fountain, and, no doubt numbers have gone away relieved; stacks of crutches, and other evidences of cure left behind substantiate this statement, for under the influence of a strong, devout, religious impression, many ailments, functional or nervous in their character, have been relieved. But it is a source of the greatest gratification to the profession that the clergy of whatever name, are as a class, adherents of the true medical faith. Sorry it is that there are exceptions to this rule, that now and then we see the name of a person with the title "Reverend" quoted as subscribing to the virtues of some quack nostrum, or upholding some medical delusion—as osteopathy for example. But do we not also find occasionally a name bearing the title of M.D. associated with the same delusion, as when a doctor so far forgets his birthright as to become an adherent of Christian science or osteopathy? But, I repeat, that the great and noble army of religious teachers are with us and depend upon us in the time of their physical troubles, and you will bear me out in the statement that we have no more loyal, more devoted, more grateful adherents than they. Nor can we forget that we owe to a clergyman the most touching tribute ever paid to the medical profession; the character of Weelum MacLure, the Doctor of the Old School, as portrayed by the Rev. John Watson, Ian MacLaren.

The same superstitious reverence makes people believe in charms and amulets. The fire doctor, who takes fire out of a burn by blowing his breath upon it and murmuring some incantation, or the old woman who looks at the moon, and mumbling some unintelligible words, takes the warts from children's hands, are with us still. Amulets suspended from the neck, as bags containing sulphur or asafetida, are still worn to keep disease away; and the horse chestnut is carried for hemorrhoids, and the iron ring is worn for rheumatism.

History is loaded with the records of cures by these agencies, and there is scarcely a malady that has not had its cure. The charms that were most effective were those having something of the horrible associated with them—such as coffin nails, a bit of hangman's rope, chips from a gallows, spiders suspended from the neck, arsenic, or pieces of dried toad applied over the heart.

Another far-reaching delusion was the Royal Touch for Scrofula. So prevalent was this delusion at one time that the name "The King's Evil" was given the affection. The King who ruled by the grace of God would naturally be supposed to possess divine power. From the time of Edward the Confessor to the reign of Queen Anne, a period of seven hundred years, this belief prevailed.

One method was this: The patient obtained from his physician a certificate of diagnosis, or a statement that the patient was suffering from scrofula; then on certain days the sovereign would lay his hands on them, and at the same time give them a piece of money, usually of gold. Pettigrew says that during the reign of Charles II., in twenty years, from 1662 to 1682, no fewer than 92,107 persons were touched, and he further states that during this reign "more people died of scrofula than during any other period." A record is in existence, made as late

as March 30, 1714, during the reign of Queen Anne, showing her majesty on that date touched 200 persons for "the evil," among them the great lexicographer, Dr. Samuel Johnson, who was then four and a half years old. To show how groundless was this belief we have only to recall that this truly great man suffered from scrofula during his entire life.

But this delusion and many others have disappeared, and nought remains but royal touch pieces in museums to remind us of the credulity of the human family.

Passing by Mesmer, after whom mesmerism was named, and who claimed to cure patients with "manipulation aided by dimly lighted rooms and soft music," and Gassner, who was a cotemporary, we come to consider a delusion, originated by a fellow countryman, named Perkinism, or Elisha Perkins and his Tractors.

Perkins was born at Norwich, Conn., in 1741 He received a medical education, and for a number of years practised his profession successfully in Plainfield. In 1796 he invented his metallic tractors, which were three inches long and tapering to a point, one resembling brass, the other steel. With these he claimed he could draw diseases from the body; particularly local pains, inflammations, neuralgia of the head, face, and teeth, and rheumatism; this was done by applying the tractors over the painful parts and drawing them downward, for twenty minutes or longer. It does seem ridiculous, doesn't it? But ridiculous as it may seem, this method was recommended by the faculties of three institutions in this country; it received a favorable report from a Swedish body of investigators, consisting of twelve physicians and surgeons of the Royal Frederick Hospital; and in London a Perkins institute was founded under the presidency of Lord Rivers, which published cures to the number of 5000, certified to by eight professors, forty physicians and surgeons, and thirty clergymen. One writer says that the list of persons who claimed to have been cured by this agency amounted to an almost fabulous number. Perkins died in 1799, and in a few years the tractors fell into disfavor, and are now found only adorning museums, touching reminders that there is no limit to human credulity in matters pertaining to health and disease, and this was only one hundred years ago.

A cotemporary of Perkins was Cagliostro, the Italian charlatan. Perkins no doubt was an honest, self-deluded enthusiast, but Cagliostro was one of the most capable scoundrels the world had ever seen. He was born at Palermo in 1743, two years after Perkins. His right name was Balsamo. At the age of fifteen he ran away from school, was placed in a monastery, where he assisted the apothecary, and obtained a smattering of medicine that helped him perpetrate his future villainies.

Leaving the monastery, he traveled in almost every known country, practising the arts of healer, necromancer, nobleman, exorcist and spiritualist. In Arabia he was the guest of the Mufti of Medina, and the Sheriff of Mecca. In Malta he duped the Grand Master of the Knights of Malta, assumed the title of Count de Cagliostro, and obtained letters of introduction to the nobility in various countries of Europe. He married the beautiful Lorenza Feliciana, who aided him in his iniquities. In Germany he exhibited an elixir, which gave perpetual life and never ending beauty, claiming he was over two hundred years old, through the use of this agent. By his power as necromancer, he claimed to hold communion with celestial spirits; his victims were very numerous.

France was the theater of his greatest success for a time. Here he established "The Triumphant School of Wisdom," changed baser metal into gold, restored youth, and prolonged life indefinitely; among his disciples were the most noted members of the French Court, including Cardinal Rohan. A scandal connected with the theft of a necklace drove him from Paris after lying some time in the Bastille. His waning star failed to impress the British mind; Germany expelled him, and going back to his native Italy, he was arrested and received death sentence, which was commuted to life imprisonment, during which he died in a dungeon, in 1795, after an incarceration of eight years. But, now methinks, I hear you say, "Are we not better than they?" No, in no wise, for the nineteenth century has as many instances of medical delusions as any of its predecessors.

There was Samuel Thomson, founder of the "botanic school," who undertook to cure "all fevers, whether black, grey, green, or yellow," by decoctions of indiginous plants of the most depressing character, as lobelia; who when treating a case that was probably pneumonia, "puked the patient violently thrice," then put him to bed, then puked and sweated him for three days until he was so weak he could puke no more. When Thomson asked the patient how far down the medicine had got, and the patient, indicating his chest, the quack replied that "it would soon get down and unscrew his navel." Death followed this treatment in three days, and Thomson was defendant in a suit of manslaughter, but was acquitted; this was in 1809. He had many followers, and Thomsonianism has become a name in medical history.

Time compels me to pass by a number of worthies, who in one way or another claimed great power as healers in the early years of the century, and I will come to a period nearer to our own recollection. Who has not heard of Francis Schlatter, the Divine Healer?

Francis Schlatter was an Alsatian peasant, with an ordinary education, a shoemaker by trade, who came to this country and settled in Jamesport, L. I. He had no bad habits, was a good shoemaker, paid his debts, was a glib talker, and claimed, at times, to have visions.

In 1894 he turned up in New Mexico as the New Messiah, and claimed extraordinary power in curing diseases. In the summer of 1895 he went to Denver, Colo., calling himself the "New Messiah and the Healer," and from August 22 to November 13, 1895, it is stated that about 300,000 people visited him. On the last day he treated 5000 people. He left Denver, traveled south across the Rio Grande into Mexico with his mule, and went into the wilderness to fast. Some time after the newspapers contained the following dispatch: El Paso, Texas: Francis Schlatter found dead in the foot hills of Sierra Madre, S. E. of Casa Grande, State of Chihuahua, Mexico; death probably due to starvation." This simple statement of facts is more forceful, and tends more to substantiate my propositions than any additional comment I could make.

Bear with me while I speak of another Divine Healer who has been attracting a great deal of attention in another western city, Rev. John Alexander Dowie, the founder of Dowieism.

Dowie was born in Scotland fifty-five years ago, was educated in a Congregational Theological Seminary in Edinburgh. Was taken seriously ill of stomach trouble, and was told by his physician that recovery was impossible. He then sought relief in prayer, and reading the Scriptures, and claims he was instantly cured. He emigrated to Sydney, N. S. W., as a clergyman, but gradually drifted away from his church, until 1878, when he resigned. He then went to Melbourne, Australia, where he established the Free Christian Tabernacle, and taught in his own way. A little later he developed his divine healing theory. During an epidemic of fever, he went in among the afflicted, laid hands upon them, prayed, and he says, cured thousands. He also states that his fame became so great that all Australia praised his name. He came to America in 1888, landing in San Francisco, where he established missions and healed many; remained two years, and then went to Chicago. Here he established healing missions in many parts of the city, got into the courts many times, and four years ago founded a new church, named the Christian Catholic Church of Zion, calling himself the General Overseer. He has erected a tabernacle in addition to healing homes, and claims that last year 12,000 people came into his fold; and that his followers in Chicago, alone, number over 50,000. He has established a bank, a printing house, a land company, a lace industry, and a new town of Zion, at Waukegan, Wis., containing 6500 acres. His members pay a tithe of all their earnings to the church, and his financial resources are placed at two million dollars. During last month he started on a pilgrimage to the Holy Land, having made a vow that he would witness the sun rise over the hills of Jerusalem, at the dawn of the twentieth century.

One other divine healer so-called, however demands attention, namely Mrs. Mary Baker G. Eddy, the discoverer of Eddyism, or Christian Science, the most popular fad and delusion of the day. Some idea of the extent of this delusion may be gathered from statements made in the Christian Science Journal for December last, in which it is claimed that there are 370 Christian Science churches, and 100 other organizations in existence; in addition there are 100 reading rooms, and 30 institutes and academies where Christian Science is taught; several magazines are published, and churches are found in nearly every State in the Union, and in Canada, England, France, Germany, Australia, and Hawaii. Boston and Chicago are the great strongholds. In the former city the Mother Church has been erected at a cost of over $200,000.

It is claimed that 1,000,000 persons have received Christian Science treatment, and that the number of believers is over 400,000 in the United States alone. So much for the extent of the fad. Now a few words as to the founder or "discoverer," and its claims and practice. The "discoverer," Mrs. Mary Moss Baker Glover Pattison Eddy, the last three being the names of her successive husbands, is an old woman of 80, living at Concord, N. H., where she has a stately mansion, and another at Boston, Mass. She descends from an old New England family, and in childhood was fond of metaphysical studies, logic, etc. Like Schlatter, in her childhood, she heard voices calling her by name—"three times in an ascending scale," this continued for a year.

She was a member of the Congregational Church, an ardent advocate of woman's rights, and a practitioner of homeopathy. Like the Rev. John Alexander Dowie, her introduction to the new system was brought about by her recovery from a supposed serious illness, following a fall upon the ice; her physician had announced that there was no hope for her recovery, that she could not possibly live three days. Like Dowie, she then resorted to prayer and the Bible; opening the book she read of the palsied hand: she was immediately restored to health, arose from her bed, and appeared to her friends as one arisen from the dead. This was in the year 1886.

She then began a close study of the Scriptures, and at the end of three years published her book, "Science and Health, with Key to the Scriptures," which has had a marvelous sale, having gone through over one hundred and ninety editions, and is carefully protected by a copyright. This marvellous book, which has been spoken of by enthusiastic converts as "a rich word from our leader and teacher, our beloved Mother in Israel." (Galton.) That "tears away the veil which more or less has darkened the pages of Scripture and, endues them with the brightness which God's words should reflect." (Clarkson.) A book so sacred, that in their church service selections are read from the Bible and from the book alternately; further I am informed, that in the magnificent Mother Church in Boston there are two windows, in one of which is a figure of our Lord, and in the other a

representation of "a woman clothed with the sun, and the moon under her feet, and upon her head a crown of stars."—Rev. xii: 1. This woman, Christian Scientists claim, is Mrs. Eddy, and her book is the book mentioned in Revelation. Still further, around the walls of the church are quotations signed alternately, "Jesus Christ," and "Mary Eddy," who is spoken of as "Our Mother." And, yet, Mrs. Eddy deemed it necessary to cover this book by a copyright, and to make it a patented article, on the same plane with Lydia Pinkham's Vegetable Compound, or Radway's Ready Relief.

And she has been called by her devotees, "the most illustrious woman of the Continent," "The most marvellous woman of the ages, a second great Mary, who has taught the world how to know God."

But sacrilegious, aye, blasphemous as all this is, it is not with Christian science as a religion that we are most concerned, but with Christian science as a medical delusion, as a pretense to healing.

Septimus J. Hanna, editor of the *Christian Science Sentinel*, says: "Christian scientists rely upon God and divine power for their healing in every way, and every emergency rather than upon human physicians." In other words, Christian science pretends to treat every kind of human ill without resort to medical means—claims to cure cancer, consumption, diphtheria, scarlet fever, all other fevers, and all inflammatory diseases. A consistent application of this belief would apply to fractures, dislocations, bleeding arteries, and other injuries, but Mrs. Eddy says: "It is better to leave the adjustment of broken bones and dislocations to the fingers of the surgeon, until the advancing age admits the efficiency and supremacy of mind," thereby showing her cunning, for sufferers from such injuries live to bring the scientists into courts, as defendants in suits for malpractice, "but dead men tell no tales." The theory underlying this treatment is a species of pantheism in which the reasoning is something like this: God is good; good is Mind; God, mind being all, matter is nothing.

Sin, sickness and death cannot affect God, therefore they cannot affect Mind, which is God. There are two forms of mind—Divine Mind and Mortal Mind. Mortal mind is responsible for all the trouble in the world, especially for sin, sickness and death; mortal mind is also responsible for a belief in matter. "Matter is a subjective state of mortal mind evolved in belief by false, material sense." But mortal mind being a subjective state it really has no existence and disappears with the development of a firm belief in Divine mind; as mortal mind disappears, with it also goes the belief in matter or material things, and sin, sickness and death. This being the theory, how is it applied? The Christian science healer sits beside the patient, who is suffering from the delusions of mortal mind, and thinks he is sick, and endeavors to argue the false impression away; allays his fears, positively assures him that there is no disease or suffering, and endeavors to replace his false beliefs by a belief in Divine mind; this is helped by prayer and reading from Mrs. Eddy's book.

A word with reference to Osteopathy. Like Christian science, this system announces to treat all diseases without the use of medicine—like Christian science it accounts for all diseases by a fanciful pathology: Christian science teaches that all diseases are due to errors of mortal mind. Osteopathy, "that bodily disorders are the result of mechanical obstruction to the free circulation of vital fluids and forces." "What is pneumonia? It is a congestion; it is too much blood in the lungs. What is typhoid fever? It is too much blood in the small intestines. What is diphtheria? It is too much blood in the membranes of the throat. What will cure these troubles? Correct the circulation; make the circulation absolutely perfect, and these so-called diseases will at once depart."

Like Christian science, osteopathy discards the germ theory of infectious diseases, throws aside all the discoveries of bacteriology, ignores all the results of the investigations of the great army of patient, honest students the world over; and substitutes in their place simply—manipulation. Like Christian science its backs up its claims to recognition by great numbers of patients, and names of persons noted for intelligence and influence.

I will not weary you by further citations to establish the propositions made above. I think you will agree with me that their demonstrations are complete. Do the present prominent medical delusions, Christian science and osteopathy, point to their great following, and claim among their followers persons of prominence and intelligence? Let me refer to the above statements, and remind you that Francis Schlatter and Dowie can claim the same, or that further back Cagliostro and Perkins were accorded a like support. Osteopathy may claim its thousands, and Christian science its tens of thousands, but Lydia Pinkham numbers her patients at a million.

But, now I hear you ask, why is this? Why can humanity be thus befooled? There are several reasons to be offered.

First: The self-limitation of diseases. A large percentage of all the ailments affecting humanity, some say over fifty per cent., for which medical aid is sought, tend naturally to get well, and will get well under good care and proper hygienic influences, without any special medical treatment. This is self-evident to the profession, but not to the laity. With the people, sickness is a calamity that always requires some special medical means to remove, and added to this mistaken belief is a false method of reasoning, or accounting for recovery—namely that recovery is always attributed to the means used, in other words a sequence is taken for a consequence; a *post hoc* for a *propter hoc*.

Again a large number of ailments that are very serious in their character to the patients are simply functional troubles, due largely to our unnatural way of living. Consider the overtaught, underfed or improperly fed and villainously dressed children; overworked, overstimulated men; and women who violate every canon of health as to rest, recreation, food, clothing and general living; add to this the noise and confusion of town life, the daily rush and rapid way of doing everything—the constant jingle, jingle, jingle of the telephone bells and street cars, the clack, clack of horses' feet on paved streets, the clanging of church bells and the roar of steam whistles, and do you wonder that the harvest of such sowing should be unbalanced nervous systems—the so-called nervous prostration, hysteria, neuralgia, dyspepsia and melancholia?

In the management of all these ills, the personal factor of the medical adviser is a powerful one. Pettigrew says: "The bold unblushing assertion of the empiric of a never failing remedy, constantly reiterated, inspires confidence in the invalid, and not infrequently tends by its operation on the mind to assist in the eradication of the disorder." But not only in self-limited diseases and neurasthenia is the personal factor of the medical adviser of great importance. In all kinds of sickness and in every physical calamity this personality is, and ought to be, a powerful agent in affecting relief; and it behooves the educated physician to avail himself of this agent in his combat with disease.

Much is now being said of suggestion as a therapeutic agent. As defined by the Century Dictionary: "Suggestion is the insinuation of a belief, or impulse into the mind of the subject by any means or by words, or gestures, usually by emphatic declaration." A late writer says: "The presence of the physician who inspires his patient with confidence and hope is a constant suggestion that health will be restored." How often do we hear the patient say, "I was better the moment the doctor came into the room." The tactful physician says to his bed-ridden, neurasthenic patient, "I shall expect to see you sitting up to-morrow when I come." And the patient will, in all probability, be sitting up. The next day he will say, "I shall be greatly disappointed if you do not meet me down stairs to-morrow," and in all probability he will be met as he suggested. No finer example of the magical influence of the doctor's presence was ever given than that described by MacLaren, when Burnbrae's boy had his hand mangled by the threshing machine and they were waiting for Dr. MacLure to come. It was often told how far he was up Glen Urtach when the feeders of the threshing mill caught young Burnbrae, and how he had only stopped to change horses at his house and galloped all the way to Burnbrae and flung himself off his horse and amputated the arm and saved the lad's life. "You wud hae thocht that every meenut was an hour," said Jamie Soutar, who had been at the threshing, "an' a'll never forget the puir lad lying as white as death on the floor of the loft wi' his head on a sheaf, an' Burnbrae haudin' the bandage ticht an' prayin' a' the while, and the mither crying in the corner. 'Will he never come?' she cries, an' a' heard the soond o' the horse's feet on the road a mile awa' in the frosty air. 'The Lord be praised!' said Burnbrae, and a' slippit doon the ladder as the doctor came skelpin' intae the close, the foam fleein' fae his horse's mooth. It was michty tae see him come intae the yaird that day, neeburs; the verra look o' him wes victory."

But admitting as we do that a large percentage of ailments do get well without active medical interference, fifty per cent. if you will, also that a considerable number are conducted safely to health by the personal influence of the physician, by suggestion, or whatever you like; there remain still a large number of diseases in which the powers of nature and the forces of disease are engaged in a death grapple, that will result disastrously to the victim unless nature have the most prompt and most efficient aid—aid that can be given, and be given only by the educated, scientific medical man. Of the great number of such diseases time will permit me to refer to but two or three.

Dr. Nicholas Senn, at the last meeting of the American Medical Association, in a discussion of appendicitis, admitted that eighty per cent. of all such attacks get well without operation. This is a very generous admission for a surgeon, but grant it, what is to become of the other twenty per cent.? What can manipulation, or faith, or Christian science do for a perforated, suppurating gangrenous appendix? Modern surgery claims to cure ninety-eight, or even a hundred per cent. of such cases, if the operation be done early, and the claim is well founded. Grant, also, that eighty per cent. of pregnant women approaching delivery will get along safely without any special medical aid, but what of the other twenty per cent. of cases in which there is very likely to be puerperal convulsions, or hemorrhages, or malpositions, cross presentations, in which if the patients do not have the care of the best medical skill they will in all probability die; but with such skill they will almost invariably recover. And diphtheria, that most terrible enemy to child-life, that has planted the yew and cypress in every graveyard of the land; that has made more hearthstones lonesome, and more hearts sad than any other malady; that has caused lamentations and mourning throughout the world—Rachels weeping for their children and refusing to be comforted because they are not.

The efforts of the best men in the profession were as nothing—with fiend-like rapacity this modern Moloch claimed the best and dearest of our homes, and the insatiate monster still cried for more. But thanks to modern medical science, thanks to the germ theory of disease, the deliverer has come, and this fearful scourge has been

robbed of its terrors, for antitoxin cures diphtheria. Modern medicine says: "Go tell every fond mother and every devoted father that antitoxin properly administered and in time will cure diphtheria." This is my confession of faith, that the proper dose of antitoxin administered during the first twenty-four hours and repeated as necessary, gives promise to cure every case of diphtheria, and if given during the second twenty-four hours, will cure ninety per cent. of such cases; and this is the faith of my profession!

And yet Christian science and osteopathy have the brazen effrontery to assert that they treat all diseases without calling "upon the human physician," and "without the use of medicine," and by circulars and advertisements in the papers make these statements to a confiding and easily deluded public. Any man, or any set of men, who depend upon manipulation, or upon prayers in cases of appendicitis, or who undertake to conduct pregnant women through the perils of maternity by the same means, or who withhold from children the almost miraculous benefits of antitoxin in diphtheria, and who by their "bold and unblushing assertions" publicly reiterated, mislead and delude the people, are dangerous men, a peril to the community and ought to be suppressed.

But what of the future? History will but repeat itself; the royal touch for king's evil, Perkinism, Mesmerism, Thomsonianism, Schlatterism have all gone. to be remembered only as historical curiosities, and to illustrate how far humanity may be fooled. Only a few years ago our ears were filled with the adulations of Keely and his institutes, and good men with the dollars, and pious women with their prayers were doing their best to convince the world that the great deliverance to the drunkard had come. But the glory of Keely has departed, and his was another light that failed. So will it be with Dowieism, and Stillism, and Eddyism, they are little clouds, they will soon pass, and the names of Dowie, and Still, and Eddy will take their places by the side of Mesmer, and Perkins, and Thomson, and Schlatter, and Keely, who lived and flourished for a time, and then died.

But what can be done? Should anything be done to combat these false leaders of the people? Purrington says of Christian science: "Publicity will destroy this cult far more quickly than legislation." Many States of the Union have passed laws regulating the practice of medicine, but the term "practice of medicine" has been so imperfectly defined by the courts that these laws offer little, or no protection to the public. "The use of drugs, medicines or instruments" in treating the sick or injured, the definition usually given by the courts, would convict a druggist who prescribes a dose of chalk mixture for diarrhea, and would permit an osteopath or a Christian scientist to escape, who allows a child to die of diphtheria without antitoxin, or a woman in labor to die with her child undelivered. The "glorious uncertainties of the law" are well illustrated by the fact that the State of Kentucky excludes the osteopath absolutely, while the neighboring State, Ohio, can find no justification for this exclusion.

From all that has thus far developed it seems conclusive that with the present definition of the term "practice of medicine" that attempts to execute the laws now existing would simply give the pretender a little cheap martyrdom, and aid rather than deter him in his nefarious business.

It behooves all practitioners who have complied with the medical registration laws to unite in an appeal to the legislature for the passage of an act defining justly the term "practice of medicine," so as to include "all methods of treating the sick and wounded for hire," or, as stated most intelligently by Mr. John A. Opp of the Luzerne County bar, in an opinion as examiner to report upon the application for a charter by the new school of osteopathy, in this city. In this opinion which was adverse to the application, Mr. Opp says:

"We conclude, therefore, that a medical practitioner is one whose business, or profession, is to heal diseases, whether it be by drugs, medicine, electricity, hot or cold water, or massage. That the practice of medicine as used by the act of 1877, is the attempt to cure any person, sick or afflicted, by the use of medicine, or by any means or agency whatsoever; that the word 'medicine' in such statutes is used in its broadest sense and means any curative agency." Such a definition would make it necessary for all persons pretending to heal to come before the State Board of Medical Examiners and to meet the same requirements as are demanded of legal practitioners.

Medical legislation has been productive of much good—it has produced a higher standard of medical education; it has closed the diploma selling mills; it has placed the profession on a higher plane, and enabled it to command a much greater respect in this age of the world; and it has aided in making the profession more and more powerful to combat disease. Without doubt, the present medical delusions will pass, as all their predecessors have passed, but they will be succeeded by others, as the genus has always existed—false lights along the shore to mislead the unwary, to shipwreck and ruin; but the great sun of true medical science will continue to shine with greater and greater effulgence until the perfect day.

Finally, may we not indulge ourselves in the poet's rhyme:

"Swift pass the days. Our century slowly dies—
Quick beats her pulse and filmy are her eyes.
Her flowing robes are red with countless wars,
Her tender breasts are sad with many scars;
Yet in her dying eyes prophetic glows
Some sweet prediction of a world's repose.
Lo, at her side the coming sister stands,
And bends to hear, and fold those wasted hands.
What shall I bring which thou hast failed to find?
What nobler hope have I to give mankind?
Hark! From the lips where life had seemed to cease
Comes the low murmur: "Thou shalt give them Peace."

SOME STUDIES IN METABOLISM IN CHRONIC NUTRITIONAL DISEASE.[1]

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IT cannot be emphasized too strongly in the practical study of the phenomena of health and disease that, as far as the limitations of our knowledge enable us to determine, vital phenomena of every sort are reducible to chemical formulæ. Look where we will, or analyze as far as we can, we will find ourselves unable to go beyond this proposition. The microscope has told us much and revealed wonders in the minute structural formation of organized bodies; but in spite of all this it leaves us absolutely in the dark as to the real nature of the processes which in some sense are equivalent to the life phenomena with the study of which we are especially concerned. It therefore becomes necessary, after pursuing our investigations as far as we can with the microscope, to lay it aside and pursue the further elucidation of the problems of life with the test-tube and balance in the chemical laboratory.

When we attempt to make a practical application of these obvious truths in the study of vital processes we are at once confronted by a painful sense of the imperfection and sharp limitations of our knowledge. We see at once that we know but little more than the alphabet of the wonderful array of complex chemical processes which go to make up the phenomena of the cellular and somatic life represented by the higher animal organism. But this alphabet is already a pretty large one, and its complete mastery and application to clinical methods will do as much if not more toward furnishing a clear and lucid comprehension of diseased processes than anything else with which I am acquainted.

As illustrative of the high value attached to investigations along these lines I desire to present a few facts gleaned from the daily grind of routine clinical work.

In looking for a convenient accessible and faithful reflex of the chemical processes going on within the body which we designate by the blanket term "metabolism," the urine presents itself as *par excellence* the material best suited for our purpose. The obviousness of this proposition makes comment unnecessary further than to point out the fact that practically everything existing in the urine is preformed in the blood; has served its purpose in the economy, and is carried away by the currents of renal secretion as effete material. The kidneys are not in any proper sense of the word secretory organs, as they are entirely destitute, as far as we know, of proper secreting glands, their exclusive function being to act as separators, to to speak, of certain materials held in solution in the blood which it is to the advantage of the economy to throw away. The theory that uric acid and certain other urinary constituents are formed in the kidneys has been entirely disposed of by the investigations of Minkowski and others, and we are fully justified from a practical point of view in regarding every molecule which is found in the urine as identical with one which preexisted in the blood, at the same time admitting certain unimportant modifications produced by the renal epithelium, such as the synthesis of hippuric acid, from benzoic acid and glycocol in Munk's experiment.

In singling out the urine for the purpose of clinical study in the manner indicated, it is not my intention to underestimate the importance of pulmonary, cutaneous, or intestinal excretion. The technical difficulties, however, in the way of the chemical investigation of these latter excretory products, together with the fact that the chemical combinations found in the intestines are mostly of local origin, make them unavailable as standards for clinical study.

Turning to the urine and seeking for evidences as to the state of general metabolism, the greatest interest centers in the end-products of nitrogenous waste. Of this, urea is by far the most important; next in order comes uric acid, and after this the xanthin bases. The adequacy of the chemical processes of the body in the genesis of the life forces is indicated by the total quantity of urea per unit of body weight better than by any other, if not all other, facts combined.

In the study of chronic nutritional disease of various sorts, they can be divided, it appears to me, to advantage in three groups; one with diminished urea excretion; another with excessive, and a third with normal, or, as I think they might be conveniently designated, hypoazoturia, hyperazoturia, and orthoazoturia.

As an illustration of the first group I have recently selected from my notes forty cases of neurasthenia with marked hypoazoturia, the average of the entire forty cases being less than 10 grams, or about 155 grains per day. The lowest quantity found was 2 grams in one case and 3.25 in another; ten cases had 5 to 6 grams and the remainder ranged from 6 to 19. In such cases important therapeutic indications are obvious and, with perhaps the single exception of renal insufficiency from organic disease, forced feeding is indicated, in many cases, with hydrotherapeutic or other mechanical measures, and outdoor life, to stimulate as actively as possible the various functional and nutritional processes.

In the second class of cases (hyperazoturia) we find numerous chronic morbid states among which diabetes mellitus occupies a conspicuous position, in which tissue metabolism is excessive and the output of urea greatly in excess of what it ought to be. For instance, in a recent case of diabetes in a young girl weighing 95 pounds, the quantity of urea was 48 grams, or about one and one-half ounces, for an adult weighing 150 pounds. It is not, of course, always possible for

[1] Read before the Indiana State Medical Society, May 24, 1900.

us to meet the therapeutic indications arising from such a condition, but the salient fact of excessive metabolism is an important one and should be taken into close account in dealing with this group of cases.

In the third, small group of cases (or those of orthoazoturia) we find the urea excretion strictly within the normal range, and yet have to deal with obvious chronic morbid nutritional states. Where a proper balance is maintained in the intake and output of nitrogenous material and yet severe nutritional disturbance presents itself, we will commonly have to deal with toxic conditions resulting from functional disturbances of some one or more of the principal organs of the body. This may not be true in the first and second groups. In studying the urea excretion, care should be taken not to lay too much emphasis on the results of a single analysis, as the amount is subject to tremendous fluctuations from various causes, transient and even unimportant in their bearing on the pathology of any given case. A series of analyses of measured twenty-four-hour collections is advisable in all cases were unusual conditions are met with.

Taking up the question of uric acid as the next most important product of nitrogenous waste, we find it subject to wide fluctuations from many different causes, some of which are reasonably plain and others entirely obscure. It seems to be pretty fully agreed that uric acid is derived from the nuclein substances of the organism; and that the latest investigations of Horbaczewski indicate if they do not prove that it is derived directly from these substances and not from the xanthin bases as intermediate oxidation products. The chemical formulæ of uric acid and the different xanthin bodies placed side by side with their gradually descending molecules of oxygen, furnish a very picturesque argument in favor of each of these bodies being derived from the next lowest oxidation product. This theory appears to be quite untenable.

With reference to the prevailing view that uric acid is derived principally from the nuclein of the white blood-cells, I have to oppose some clinical observations which I cannot explain in accordance with this theory. For instance, in one case of splenic myelogenous leukemia, my study of which has extended over a long period, the quantity of uric acid in 24 hours has fluctuated widely, being as low as 1 gram and as high as 2 1/3 grams (15½ to 36 grains); the leucocytosis in this case has varied from as low as 10,000 up to 277,000 per cmm., the leucocytes being thus at one time 27 times as numerous as at another. I have been unable at any time to trace a correspondence between the number of the leucocytes and the amount of uric acid excreted. For instance, at one time with the leucocytes at 10,000 there was 1.1 grams of uric acid while at another with the white-cell count up to 277,000 the uric acid was 1.6 grams; with another white-cell count of 11,000 the quantity of uric acid was still above one gram, and yet again with a count of 20,000 there was 2.7 grams of uric acid. Obviously there was no connection in this case between the number of leucocytes and the quantity of uric acid excreted. In another case of fatal heart disease, under the care of Dr. Campbell of Ada, O., there was a very marked leucopenia, the white cells being found only to the number of 1300 per cmm.; and yet two different estimations of uric acid showed respectively 1.59 grams and one gram, both amounts being considerably above what is regarded as the physiological standard. If time permitted I could quote numerous cases along these lines, showing an utter lack of correspondence between an increase and decrease of leucocytes and uric acid.

What was said with reference to the relation of the xanthin bases to uric acid is probably also true with reference to the relation of uric acid to urea. The most we can say in the present state of our knowledge is that variations in the amount of uric acid simply indicate perturbation of normal metabolic processes which always have a more or less important bearing upon chronic nutritional disorders. The largest quantity of uric acid that I have ever found and, so far as I know, larger than has been found in any recorded case, was in the case of diabetes already referred to, in which the Hopkins method showed 90 grains in twenty-four hours. Three different titrations were made, each one giving approximately the same result.

I use a modification of the Hopkins method in my laboratory, the correctness of which I have verified many times by making percentage solutions of uric acid and making control titrations with them. With reference to uric acid in diabetes, I notice that Startz of Germany is said to have pointed out some sources of error, the exact nature of which I do not know as I have not yet had an opportunity of consulting the original monograph.

There are many other important indications to be found in the urine bearing on the processes of general metabolism. I might mention in this connection the occurrence of leucin and tyrosin as indicating a perversion of nitrogenous metabolism commonly associated with acute atrophy of the liver, but also found in numerous and varied chronic nutritional disorders, among which I may mention, as having occurred under my own observation, Brights' disease, leukemia and chronic hepatic congestion and chronic gastro-enteritis. The occurrence of these bodies is not pathognomonic of any particular disease, but simply indicates changes in the chemical processes of the tissues, the precise meaning and character of which are still obscure.

Variations in the quantity of the various inorganic salts present problems of great interest which I cannot now consider. In this connection the sulphates are perhaps of the least importance, variations in their amount being principally due to dietetic influences. There is good reason for believing, however, that this is not true with reference to the phosphates and chlo-

rides, variations in the quantity of which have more or less direct significance with reference to the metabolic processes of the organism.

It has been my intention simply to point out a few interesting facts which have fallen under my own observation and indicate what appears to me to be their bearing upon the practical problems of clinical medicine. In this direction there lies one of the most fertile fields for original clinical observation, the cultivation of which will broaden our views of disease processes and furnish us many an important hint in the management of obscure pathological conditions with which we have heretofore dealt under great difficulties.

THE ART OF KEEPING COOL, WITH SPECIAL REFERENCE TO THE PROPER USE OF WATER.

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THE object of this communication is to show, as briefly as may be, how, by the judicious use of water both internally and externally, we can keep ourselves comparatively comfortable during the warm weather and can avoid suffering to a considerable extent from the ill effects produced by a prolonged season of summer heat.

A great many persons either do not know how to properly use or have a prejudice against the use of cold water, and to such it behooves us to show the advantages, and to point out a few practical results which may be obtained by the correct use of water which will tend to add greatly to their physical comfort.

Internal Use of Water.—Cold water taken in moderate quantities and at frequent intervals during the day not only acts as a flush to the stomach and intestines, but tends to improve the appetite, increase peristalsis and relieve constipation. It also stimulates the liver, heart, kidneys and skin to a healthy action. Its effects on the kidneys are not only to increase the watery, but also the solid constituents of the urine. As tissue metamorphosis is greatly enhanced by water, the organism will be much rejuvenated by its moderate and systematic use. By introducing water in small and frequent quantities, either into the stomach or rectum, we can obtain a reduction in the bodily temperature, which is due not only to the direct effects of the cooling properties of the water, but to reflex action. It also has a tendency to lower the temperature of the body directly by means of stimulating the function of the sweat glands.

The skin is not only an organ of sensation, but it has also the function of (*a*) secreting the sweat, (*b*) a respiratory function, and (*c*) an excretory function. The amount of insensible transpiration given off from the skin has been estimated to be on the average about 900 grams per day. The amount of sensible perspiration, or sweat, varies very greatly in amount in accordance with the height of the temperature, the amount of muscular exercise, the quantities of fluids imbibed, and other factors. The skin has a distinctly respiratory property. It has been estimated by Aubert that the amount of carbonic acid given off by the skin in the course of twenty-four hours amounts to 198 cc. while the body is in a state of repose. The skin, in addition to excreting carbonic acid and sweat, also excretes, by means of the sweat, an organic substance similar to albumin, of which there are however but traces, and a free volatile acid which gives to the sweat its acid reaction and odor.

In this place it may be of interest to recall the composition of the sweat, which is as follows:

Water	995.50
Sodium chloride	2.23
Potassium chloride	0.24
Sodium and potassium sulphates	0.01
Salts of organic acids	2.02
	1000.00

It follows from the above considerations that the normal functionating of the skin is essential to good health and to a personal sense of well-being. The proper action of the skin may be impaired by ill-health, various diseases of the skin, nervous disorders, etc.

It may be of interest to note here that in some person the sweat, either owing to the nature of the free volatile acid or organic matter, or both, has a very disagreeable and even offensive odor. In addition to keeping the skin in a proper cleanly condition by means of frequent ablutions, the use of some alkaline mineral water, or for convenience, one or two three-grain effervescent tablets of citrate of lithia, will be found of service. The tablets should be taken three times a day in a glass of water. Ice water should be prohibited. The water, if desired, can be sufficiently cooled, by being placed in bottles in a refrigerator.

External Use of Water.—Some of the most important and beneficial effects of water are obtained from its external use. Not only does it have a cleansing, antiseptic and stimulating action on the skin, but also a stimulating effect on the circulatory, respiratory and nervous systems. Tissue metamorphosis is also stimulated by the external use of water, as well as by its internal use. Water at the same time has the property of absorbing heat, and when applied to the surface of the body will abstract heat therefrom, the amount of heat thus abstracted varying according to the temperature of the water and to the length of the application. The effect of the application of cold water to the skin for a short time causes increased blood-pressure, strengthens the heart's action, stimulates the pulmonary circulation, and causes a tonic contraction of the capillaries. All these effects tend to hasten the blood-flow, and as it circulates more rapidly in the skin than usual, it tends to give off heat more

readily. These effects are still further enhanced by the mechanical action of water on the skin when directed from a height or from a distance. The value of the mechanical effects of water have been fully recognized, especially in the last few years, and the use of water under pressure in public baths in many State institutions, and even in small private hospitals, is an evidence of the high therapeutic estimation in which it is held.

Bathing in Warm Weather.—Having considered in general terms the effects produced by cold water when applied to the skin for a short time, let us see what benefit and comfort can be derived from the use of cold water or of warm water, followed by the use of cold water. On rising from bed in warm, and especially in sultry weather, one feels as a rule a sense of lassitude, and in general there is a lack of nervous tone. The skin is relaxed and may feel moist and clammy. A lack of refreshment is felt, although sleep may have been sound, and an indisposition to take up the business cares of the day. This is the time for the cold bath. The bather should immediately on rising take a dip in water at a temperature ranging from 60° to 70° F., the bath lasting from one-half to one minute and to be followed by a vigorous rub with a coarse bath-towel. It is still better, in order to obtain the mechanical effects of the water, to have a couple of pails of water at the above temperature dashed over the bather from a distance. If one has a shower bath it is equally good. If the bather is not accustomed to such baths, or is not very robust, he should begin by taking the baths at a little higher temperature, and then gradually accustom himself to the temperature of 60° F. If the friction with the towel can be done by another person, so much the better.

The result of taking such a bath as this is very manifest. It is a powerful stimulant to the heart and nervous system and inaugurates a sense of well-being which had not existed before the bath. The skin takes on a healthy glow, the appetite is improved, and, in short, the whole organism is rejuvenated, and the individual is enabled to undertake his day's work with energy, and to resist much better the depressing effects of the warm and sultry season of the year.

At the close of a hot day in summer there is nearly always a feeling of more or less nervous exhaustion, and on retiring, owing to the heat and fatigue, sleep is delayed, and frequently when it does come is fitful and restless in character. At such a time the bath is a great boon. The bath proves more efficacious, I believe, when taken at a temperature of from 103° to 105° F., lasting for from three to seven minutes. The warm water not only cleanses the skin, but is mildly stimulating and causes only a moderate congestion. At the end of from three to seven minutes cold water at the temperature and as before mentioned should be used. A marked reaction ensues, together with its accompanying stimulating effects, and after a brisk rub the bather can go to rest and in the large majority of cases enjoy a good night's sleep, although the temperature is very high.

For women and children it may be preferable to begin the use of the baths with a less marked difference between the temperature of the warm and cold bath. Thus, a bath at 103° F. followed by a rain or shower-bath at 85° F. might be given. What is steadily aimed at is the securing of a good reaction with its attending beneficial results. After a time the difference between the temperatures of the water can be gradually increased with good effect. It may be desirable, also to rub the body gently with the hands, in order to still further stimulate the flow of blood through the skin.

The use of the baths as described should be made a matter of habit, in order that they may be taken regularly and systematically, thus securing the good results indicated. The improvement in the general health and the ability of the organism to better withstand the exhausting effects of warm weather will soon be manifest. In case, however, of the existence of disease of the skin, or of some serious affection of the heart or lungs, the physician would, of course, give such special directions as might be required.

It is only necessary to touch upon the fact here that a large proportion of the inhabitants of our large cities can seldom indulge in the luxury of a bath. In many of the European cities public baths are provided for the people; and in this country a few cities have adopted them. But it is only within the last few years that a cleanly system of public baths has been provided for the poor in New York City. So far these baths are very inadequate to meet the demand, and it is hoped that a sufficient number of bathing places will be placed in the thickly populated districts of New York in order to meet the public requirements as well as to fulfil the needs of public health and cleanliness.

As supplemental to the beneficial effects of the uses of water, the importance of paying close attention to the digestion and regulation of the bowels should not be overlooked. The diet should be moderate in quantity, plain and non-stimulating, consisting largely of fruits and fresh vegetables. Abstinence from alcoholic beverages, especially during the summer months, should be strongly insisted on. Alcohol tends to lower the vital powers and has a depressing effect on the brain and nervous system, rendering the individual much less capable of resisting the ill-effects of hot weather, especially the condition known as heat prostration, or sunstroke.

The clothing should be light and loose. The underclothes may be light woolen, or cotton and wool, the principal point being that the garment should be porous in texture.

Avoidance of drafts is recommended, although it may be said in this connection that the tendency to "catch cold" or to get a "stiff neck" when unavoidably exposed to a draft will be much diminished, if the methods of bathing

herein suggested are faithfully carried out. The skin will have become toughened, as it were, by the use of cold water, and less sensitive to drafts and sudden atmospheric changes.

THE DOSE OF POTASSIUM IODIDE, WITH REFERENCE TO ITS UNTOWARD EFFECTS UPON THE UPPER RESPIRATORY TRACT.

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THERE are four groups of affections of the upper respiratory tract in which potassium iodide, to a greater or less extent, is indicated either to relieve symptoms, to restore the integrity of the parts, or as an aid in diagnosis.

The first group embraces the new formative and destructive lesions of syphilis; that is, the phenomena so frequently observed of tertiary syphilis of this region. The second in point of frequency consists of non-specific changes of the mucosa, characterized by deficient secretion and an abnormal degree of dryness, the drug being used to increase glandular secretion and thereby relieve the nasal or pharyngeal distress. The third group, in which it is used more or less frequently as an aid to diagnosis, is one requiring careful study in the individual case and is sometimes of great value in the diagnosis of new formations of the pharynx and larynx from obscure syphilitic growths, or to differentiate in conjunction with other measures a carcinoma, for instance, from a gumma of the tonsil. In some of these cases the utmost difficulty may be encountered in accurately recognizing the condition present and the well-known effect of this drug in certain syphilitic states, the disappearance of a gumma following its administration and the opposite in malignant growths indicate its use for this purpose. This latter statement needs qualification to a certain extent, however, for in malignant growths and even tuberculous tumors of this region favorable symptoms are sometimes seen for a few weeks after the potassium iodide has been used. A short period of observation, bearing this in mind, however, will enable one to see into the nature of the affection and the influence exerted on it. Finally, the drug is of value in certain specific granulomata, as actinomycosis, which on account of their rarity require no further mention.

It is not desired to especially indicate the use of potassium iodide in the affections enumerated, but to call attention to the phenomena of iodism of this region and the peculiar susceptibility in some cases and tolerance in others to minute and massive doses. "A curious phenomenon is the production of iodism from small doses and, in contrast, the comparative immunity which attends the administration of large quantities."[1] The following cases show this in a marked manner, the first being one of unusual susceptibility.

Mrs. L., aged twenty-two years. She was seen September 22, 1894, complaining of excessive mucous discharge from the nasopharynx and frontal headache, following typhoid fever (?) three years previous. The nasal arch was flattened and from certain objective symptoms and her mode of living, tertiary syphilis was strongly suspected, although no direct history of infection could be obtained. She was placed on ten grains of potassium iodide, three times daily, and within twenty-four hours all her mucous membranes were secreting in excessive amounts, the upper respiratory tract and the mucosa of the eye and ear were inflamed, as was also that of the intestinal tract, vomiting and diarrhea being constant. There was headache, but not any dermal eruption and the symptoms of which she previously complained were intensified. These symptoms attained their maximum in twenty-four hours after the first dose, which was the only one taken, and continued in a violent form for three days, gradually declining and entirely disappearing in three weeks. Two weeks after complete recovery from the attack produced by ten grains she was given, without her knowledge, one grain of the drug and all the symptoms noted made their appearance within a few hours and continued for three days. One grain of potassium iodide in this woman, therefore, produced exaggerated symptoms of iodism.

The case by contrast which was seen in December, 1899, was that of J. S., male, aged forty years, who had been advised by a friend to take potassium iodide for an attack of rheumatism. There were no indications of syphilis and he denied any history of such. He had the drug put in powders each containing 240 grains; one of which he took in a glass of beer after each meal. When I first saw him on December 27th he had taken the drug for three days in the dose mentioned—a total of 2160 grains—and had practically no symptoms. There was some nasal congestion and a subacute conjunctivitis, but nothing more at the time and nothing further developed.

In a somewhat extended search of the literature I am unable to find a duplicate of the second case, especially bearing on the massive dose taken in such a short time with practically no symptoms, but numerous cases have been reported in which, commencing with a moderate dose, the patient has ultimately attained large amounts without symptoms of iodism. Cases similar to the former, however, are comparatively frequent when somewhat larger amounts of the drug were administered, such cases having been reported by Bringier,[2] F. P. Brunthaver,[3] Montgomery,[4] and others.

The question then naturally arises as to the value of potassium iodide used to determine, in relation to its reaction, the presence or absence of specific infection. It can no longer be considered that the tolerance to large doses indicates the presence of syphilis, as the cases in which it may be used and in which syphilis can be eliminated are of frequent occurrence, too frequent

to prove by being exceptions the older idea in this respect. Peculiar, however, is the fact that in a number of individuals, both with and without tertiary syphilis of the upper respiratory tract, minute doses are ofttimes followed by iodism, while in some if the drug is pushed these untoward signs will subside and not again appear. In another class large initial doses will be of value and no iodism will take place. I have observed cases of tertiary lesions, in which the nasal interior was destroyed, including the vomer and portions of the palate bones, in which five grains of the drug would produce iodic symptoms of sufficient intensity to compel its discontinuance, although after these untoward symptoms had disappeared thirty to fifty grains were given at a dose, with the most favorable results and with the entire absence of iodic phenomena.

The size of the dose, therefore, should be measured by the effect produced on the disease or symptoms for which it is given, usually moderate doses of from five to ten grains three times daily are sufficient, and while improvement for a time will be observed in certain cases the good results will only become apparent when the amount administered is increased. On account of this peculiar relation to the drug, the dose makes little or no difference in its effect as regards iodism and in some instances, should congestion of the upper respiratory tract be developed after the administration of small initial doses, the symptoms will disappear if the drug be vigorously pushed. In this connection the statement of Bryson[5] is of value. He says that from his observations the size of the dose bears no relation to the frequency of the toxic effects. The most dangerous case of iodism seen in his practice followed quickly upon a three-grain dose. Taylor[6] states that in many cases of syphilis small initial doses have produced mischief, while succeeding larger ones have been acceptable, and also that in healthy subjects an intolerance of to-day may be replaced by a condition of assimilation a month, a year, or several years hence.

Another aspect of iodism is seen after long continuance of the drug; in this instance there is apparently no unusual susceptibility to its untoward effects, but the symptoms appear to be due to the dosage having been increased beyond what we may call the maximum iodine point of the patient. In these cases the relief of the coryza, etc., is but a simple matter, as by diminishing the dose and ascertaining the maximum amount the patient can stand the symptoms promptly disappear, not to return, provided the dosage be kept within the safety limit.

An almost cumulative effect is occasionally observed in the production of disagreeable or even serious symptoms relative to the upper air tract after the drug has been completely withdrawn for some time. In such instances no untoward symptoms having been present, yet they appear several days or weeks later, while in a somewhat larger class the drug has been withheld on account of mild iodism and within a short time severe symptoms develop, these latter symptoms often exceeding in intensity the former. This is especially pertinent to adults, as iodism is of exceptional occurrence in children, the younger the individual, the less being the liability to this accident.[7] The drug, in adults, seemingly has a specific action on the mucous membrane of the upper air paths, a single dose frequently producing a transient coryza and congestion of the palate and pharynx.

The tendency of potassium iodide to produce untoward symptoms of the respiratory tract is shown by the frequency of laryngitis and a low grade of edema in a considerable number of patients to whom the drug is administered. The severe form of glottic edema occurs without apparent reason, the general condition of the patient having little or no influence in its production, for it occurs in both the weak and robust without selection. Usually edema is not observed following large doses or after long medication, but it sometimes takes place after small doses and is the only symptom, none of the usual phenomena of iodism being present at the same time. The edema may be so extensive as to call for tracheotomy or suden death may even result. It may develop quite rapidly and may as suddenly disappear. Groenouw[8] reports a case that developed following a dose of only three grains of the drug and remarks that it may occur during the early administration of the drug; it being apparent that the longer the salt is used, the less is the danger of edema. An interesting case is reported by Heymann[9] in which edema developed in a syphilitic several days after the potassium iodide had been stopped; eight days later it disappeared.

The production of iodism in one individual and not in another, under apparently the same conditions and especially with small doses, has most frequently been explained by using the term idiosyncrasy. That certain individuals possess irregular reactions to some drugs is too well known to require any emphasis and in respect to the drug under consideration several theories have been advanced; that it is due to impurities, the most frequent being iodate of potassium; another that it is produced by defective renal elimination; while that of Capitain[10] is that iodism is due to the elimination of iodine by the various mucosa of the body. This phase has been studied by Ehlers[11] who found that the amount of potassium iodide eliminated by the urine was increased in proportion to the dose administered, iodism being caused by its retention in the body and occurring when only half the amount given had been eliminated. In cases in which doses of twenty grains are administered, it is eliminated in the proportion of seventy-five per cent.; there is no danger provided the excretive power is to some extent normal. While this explains the production of untoward symptoms from the ingestion of medium or large doses, it fails when applied to those cases in

which the symptoms are the result of minute doses.

I cannot agree with the theory of Rohmann and Malachowski,[12] *i. e.*, that in order that iodism can arise it is essential that nitrites must circulate in the blood and that the reaction of the mucous membranes must not be alkaline. A recent explanation, and to some extent plausible in the trend of the present study of internal secretion is that of Von Cyon[13] who, in studying the peculiarity expressed by the production of iodism following small doses, found that the iodine salts circulating in the blood were changed into iodothyrin through the influence of the thyroid gland and this substance produced a reaction. If on the contrary the iodides are administered in large doses, they act as diuretics and are promptly eliminated by the kidneys in the form of soluble salts.

Owing to the extensive use of iodide of potassium in all branches of medicine, a few words directed to the means of avoiding unpleasant phenomena may not be inappropriate. When the drug is administered in ascending doses for long periods, it is to a certain extent possible to prevent these phenomena by the conjoint administration of other drugs, such as arsenic and belladonna. While without these, symptoms of iodism may sometimes be prevented or the intensity diminished by varying the salt used, these results are enhanced if the alimentary canal is looked after and the patient is instructed with regard to the use of food and alcohol. The chances of unfavorable symptoms are decreased by dilution with water or milk. If it is taken in large amounts with little fluid it is retained much longer in the body than otherwise, whereas if liquids in copious amounts are freely exhibited, elimination is facilitated and at the same time favorable results are obtained.

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554 North Broad Street.

CLINICAL MEMORANDUM.

A RARE CASE OF INJURY TO THE MEMBRANA TYMPANI.

BY THOMAS D. TUTTLE, M.D.,
OF HELENA, MONTANA.

THE following case is of interest on account of the rapidity of such injuries and the little trouble which resulted from so grave an accident.

Miss N. F., aged sixteen years, was referred to me by Dr. Dean with the following history: The patient, who had gone to bed with her hair "done up" with hairpins, on turning over suddenly in the night was awakened by a severe, sharp pain in the left ear and on placing her hand to her ear found a hairpin protruding from the canal. Her sister, who removed the pin, said that it was quite difficult to pull it out. Its removal was followed by some bleeding and the patient immediately fainted. It was also said that the patient's mouth was drawn to the right side. The pin had entered open end first, not the round end which is so commonly used by women to "explore" the auditory canal.

Although I questioned the patient's family, as as well as her physician, I could get no evidence of any hysterical tendency, nor did I notice any while she was under my care, but I am totally at a loss to understand how a hairpin could follow the course this one did without a hand to guide it.

On examination I found a punctured wound in the antero-inferior wall of the canal about half an inch from the membrana tympani, the course of which could be followed by a distinct red line almost to the membrane, although it grew less distinct as it approached the membrane. Slightly above the center of the tympanic membrane there was a small, round opening from which bloody serum escaped. The membrane appeared almost black and bulged slightly, so I concluded that the cavity was filled with blood. There was tenderness about the tragus and on moving the auricle. The use of the speculum caused severe pain. Hearing was reduced to the watch-tick at two inches. The mouth was not drawn to either side.

On account of the probable septic condition of the instrument causing the injury, I fully expected that infection would result and a generally bad condition develop. I treated the case on antiseptic principles and at the end of eight days there was not any evidence of injury except a slight congestion of the membrana tympani about the point of puncture (which had healed), the membrane presenting a normal appearance with all the landmarks showing distinctly. The tick of a watch could be heard at seven feet.

MEDICAL PROGRESS.

Treatment of Urethral Strictures.—R. Harrison (*Lancet*, August 11, 1900) claims that in operations on the urethra, too often the fact is overlooked that this canal conveys for several inches at varying intervals a compound and complex fluid, which under certain conditions, not clearly defined, is capable of exercising a highly poisonous effect on the tissues and fluids of the body with which it may come in contact; thus we have rigors and fever, suppression of urine, and even septicemia. Operations on the strictured urethra produce results similar to accidental inju-

ries of a normal urethra; thus we have a lacerated or contused wound of the urethra when divulsion as practised in Perreve's or Holt's operation is employed; here the break in the tissues is at its weakest point, and the mucous membrane is torn and lacerated as in any traumatism; hence we are apt to have a recurrent stricture of persistent form; whereas in periurethral or submucous strictures, the dense bands are ruptured without necessary injury to the mucous membrane; hence a permanent cure may result. We produce an incised wound within the urethra in doing an internal urethrotomy; if the operation be carefully and properly done so that the entire thickness of the stricture can be included within the incision of moderate dimensions, a permanent cure may be effected, without being necessarily dependent on the subsequent continued use of sounds, although the practice of using sounds at intervals after the operation is advisable as a precautionary measure. The tendency to relapse is greatest where the internal urethrotomy has caused a ragged laceration rather than a complete incision of the strictured tissues; multiple strictures or strictures of the deep urethra treated by internal incision have a tendency to recur. We produce an incised wound of the urethra from without when external urethrotomy is performed; here, too, the permanent good results depend largely upon our technic; the operation should never be performed without a guide. Repair is necessarily slow owing to bathing of the wound with urine and the excessive exudation about the seat of the wound; the tendency to recontraction and recurrence of all strictures after urethrotomy is diminished by the concurrent employment of systematic and efficient urine and wound drainage, such as the combination of external urethrotomy or perineal incision affords.

Poisonous Snake-Bites.—A description of the various poisonous snakes, together with a detailed consideration of their poison apparatus is interestingly given in the *Medical Record* (September 15, 1900) by G. Langmann. The effect of the snake-bite, the symptoms produced and a review of the many methods of treatment that have been used, make the article a very valuable one. The object of treatment is fourfold, to prevent absorption of the poison, to destroy or neutralize it, to accelerate its elimination and to treat symptoms of imminent danger. If the limb affected, as a finger, is not immediately amputated an Esmarch or other bandage should at once be used and the circulation relieved only to prevent gangrene. Scarification or better, either excision or destruction of the area by cautery is advised. Locally supposed specifics have been much used, as carbolic acid or permanganate of potash. A solution of hypochlorite of lime, 1/60, has been found very effective by Calmette and is probably the best local remedy. Ammonia and strychnine act, doubtless, merely as general stimulants, but they are certainly of value. The poison exerts both a hemolytic action on the blood and a destructive influence on the cells of the medulla. To neutralize these actions a specific antitoxin must be obtained. Calmette and Fraser have offered to the world an antivenomous serum which experimentally has been shown to have the power of neutralizing lethal doses of the poison injected into animals, and has been used on man successfully in several cases. The antivenene is made by inoculating horses with a mixture of poisons from several species of deadly snakes after the hemolytic agent of the poison has been eliminated by heating to 80° C. It acts as a full protective in a dose of from 5 to 20 cc. when injected even one and one-half hours after the introduction of the venom. The action of the antivenene is supposed to be entirely chemical for a certain amount counteracts a miminal lethal dose when injected at separate points, but 1/1000 of this quantity is effective when mixed with the venom and injected. Phisalix of Paris has recently discovered that in the blood of some animals, as the eels, there is a substance which exerts a decided antitoxin action. Cholesterin, separated from biliary calculi and carrots, has a similar effect. The most commendable treatment is: Ligature of the part, scarification and injection of the antivenene, or, if not at hand, the solution of hypochlorite of lime; stimulation, artificial respiration for hours, if necessary; lavage of the stomach to remove the poison which is there secreted, and encouragement of the victim, for a deep mental prostration accompanies the depression of the nervous centers.

Treatment of Infantile Eczema.—In the squamous or the milder grades of papular or vesicular eczema of children, L. Leistikow (*Monatshft. f. prak. Dermatolog.*, September 1, 1900) recommends the use of a zinc-oxide paste containing one to two per cent. of yellow oxide of mercury. In eczema rubrum or crustosum nothing seems to act so well as a plaster mull with zinc oxide and ichthyol. It is only in the most obstinate cases that this treatment fails when resort must be had to pyrogallic acid, which never disappoints. It is best applied incorporated in casein ointment and, if not used stronger than two per cent., no ill effects will ensue.

Optic Neuritis in Chlorosis.—Optic neuritis is occasionally seen in chlorosis, but cases are rare in which it dominates the clinical picture to such an extent as to lead to a wrong diagnosis. The patient in the case reported by A. Engelhardt (*Münch. med. Woch.*, September 4, 1900) had but a moderate diminution of hemoglobin and red cells. There was, however, complete blindness, with headache, anesthesia, paralysis and other nervous symptoms to such an extent that the diagnosis of brain tumor seemed without question, especially when later in the disease localizing symptoms in the form of epileptic convulsions appeared. The autopsy revealed nothing but extreme dryness and anemia of the brain tissues, and left only anemia to explain the symptoms.

THERAPEUTIC HINTS.

Sciatica.—According to Weir Mitchell (*Clinical Lessons on Nervous Diseases*) sciatica pain tends to be worse at night, therefore the treatment should especially cover this period. Certain sciatic cases are eased by exertion, but a true sciatic neuritis is usually very painful on walking or when the nerve is stretched by sitting, or going up stairs. The treatment followed is rest in bed, constant and prolonged, until recovery is assured, and dry cupping. About three dozen cups are applied in a double or triple row around and over the sciatic notch and down the leg. They are left on for half an hour and may be repeated the next day and two days later. In lieu of this, a mustard plaster, three inches wide from notch to knee or to ankle, may suffice. With chronics of long standing, cocaine injections, ¼ to ½ grain, may be needed at first. A splint to prevent motion at hip and knee, and a firm flannel bandage from foot to groin are applied and changed twice a day. In some intractable cases ice-bags may be added. Later, as the pain fades, the joints are mildly and passively exercised and the leg gently massaged once a day. After about three weeks the splint is left off in the daytime, but the bandage continued. Meanwhile the general condition is improved by cod-liver oil, iron at need, good diet and care of the bowels; effort at stool should be prevented by hot enemas. Persistent painful points are treated by the Paquelin cautery or a small blister. When the patient first gets up, motion and the pressure of the hard edge of a chair or wooden stool are likely to bring back pain, hence he must not sit at all the first week, but must stand or walk with the aid of crutches or else lie in bed.

Angina Pectoris.—Wm. Osler (*Angina Pectoris and Allied States*) discusses the treatment under four headings. (1) General management; treat syphilis, gout, diabetes, or valvular lesions; emphasize the importance of the three great factors in causing attacks, *viz.*, mental worry, exercise, and diet; warn against sudden movements which throw a strain upon the heart, and encourage steady, quiet exercise. For diet, have meals light, limit amount taken and exclude rich, highly seasoned, or easily fermentable food. Above all things avoid flatulency. This may be relieved by hot grog in elderly people, peppermint, spirits of camphor, Hoffmann's anodyne, carbolic acid, iodine, or creosote. Hot water before meals, a few doses of blue mass, an occasional saline purge, and the use at times of a bitter tonic keep this condition in check. Intestinal disinfectants, such as salol, betanaphtol, or grains 1/60 to 1/30 of corrosive sublimate may be helpful. (2) General medicinal treatment; genuine angina in a man under thirty-five years demands vigorous antisyphilitic treatment. In gouty cases free elimination by bowels, skin, and kidneys, proper diet, and at intervals a course of colchicum, are desirable. The routine treatment consists of iodide of potassium, 10 to 15 grains three times a day, for from two to four years. This is contraindicated in advanced arterial degeneration, dilated heart, and interstitial nephritis. In hypertension give tablets of nitroglycerin, 1/100 grain, increased slowly to four or five at a dose, or sodium nitrite, 5 to 10 grains; in feeble heart with anemia, give iron, arsenic, and strychnine. (3) Treatment of the attack; nitrite of amyl, two to five minims, gives prompt relief in some cases, but is singularly uncertain. Morphine hypodermically, in quarter-grain dose, repeated if necessary, is the most useful drug. It relieves the distress and steadies and improves the heart's action. While waiting for these drugs to take effect, chloroform may be dropped upon a handkerchief and inhaled. (4) Treatment of the complications; for syncope, aromatic spirits of ammonia, Hoffmann's anodyne and brandy by mouth, and hypodermics of camphor or ether; for the cardiac dilatation and weakness, nitroglycerin with strong friction of the limbs to increase the peripheral circulation, and digitalis or digitalin, caffeine, and camphor for the heart's action. If these measures are futile, puncture of the heart may arouse to quite vigorous action a dilated and paretic organ. For the dyspnea and Cheyne-Stokes breathing strychnine, 1/40 to 1/20 grain, hypodermically, three or four times a day, and blisters to the precordium and to the bases of the lungs, may give relief.

Hyperidrosis.—The *Journal de Médecine de Paris* gives the following formula for use by persons afflicted with hands and feet that perspire too freely:

℞	Borax	15.0
	Acid. Salicyl	15.0
	Acid Boric	4.0
	Glycerin	60.0
	Alcohol (dil.)	60.0

M. Sig., apply with friction three or four times daily.

For Ringworm.—The *Journal de Médecine de Bordeaux*, July 29, 1900, gives the following formula of which the active ingredient, epicarin, a condensation product of betanaphtol and cresylic acid, is recommended by Kaposi:

℞	Epicarin	3i
	Talci Veneti	3i
	Amyli	3i
	Vaselini	3iii.

M. Ft. unguentum. Sig., external use.

Phlebotomy for Varicose Ulcer.—*Bachnard* (Ilfeld), after noting marked improvement in such ulcers subsequent to hemorrhage near the same, tried the effect of blood-letting in thirteen cases and found that cicatrization was greatly hastened thereby. In two cases the vein selected was opened directly at the site of the lesion; in the others it was in the neighborhood. From three to ten ounces of blood were withdrawn, according to the vigor of the patient.

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SATURDAY, SEPTEMBER 29, 1900.

THE PATHOGENY OF GOUT.

IT is an interesting index of the perennial freshness of problems dealing with the causes of human suffering to find the pathogeny of gout at the head of the program of the Thirteenth International Congress of Medicine, held in Paris last month.

The pathogeny of gout is a subject which has engaged the attention of both clinical and laboratory investigators from time immemorial and has probably given rise to more speculation than any other question with which the medical man is called upon to deal.

The protean character of typhoid is well recognized, but compared to the manifold manifestations of gout the comprehension of the former disease is a matter of childlike simplicity. A mere glance at the literature of gout is enough to overwhelm one by its very infinitude.

Through the labors of physiological chemists we know that the materies morbi—the peccant matter—which causes gout is uric acid or certain of its derivatives, but its exact modus operandi continues to elude even the most refined methods of laboratory research. This throws the burden of explanation of the pathogeny of the disease upon the clinicians; in other words, renders the subject one of pure speculation.

Fortunately for us, the disease is not common in America, so that at present we have little opportunity either for extended clinical observation or for the speculation to which such opportunity seems inevitably to give rise. The very youthfulness of our civilization is our safeguard from the malady; but, alas, even so young a country as ours will grow old sometime, and we may look confidently forward to the day when our golden and gout-free age will give place to a gouty and speculative one.

In England and continental Europe, where civilization is already centuries old, the speculative tendency with reference to the pathogeny of the disease under discussion has been rife for more than a hundred years. Even before the days of animal chemistry gout was believed to be due to a perversion of physiological function, the result of which was certain "peccant matters" which were supposed to be distilled into the joints. This was the so-called "humoralistic" doctrine, and it held sway with practical universality until Cullen introduced the "solidistic" theory that "gout was an affection of the nervous system in which the primary moving powers of the whole system are lodged."

From Cullen's time to the present the terminology of theorists has become more scientific, perhaps, but it can hardly be said that we are appreciably nearer to a clear understanding of the problem of pathogenesis. Experts in the matter all over the world seem now to be in accord as to the paramount importance of the pathogenic rôle of uric acid in the disease, but just how this acid gets its origin and does its mischief is a question which remains in all its old-time obscurity. We are assured that heredity is a predisposing factor of vast importance and that, given this factor, combined with the peculiar vice of nutrition to which it inevitably leads, we may confidently look for uric acid and gout in certain members of a family. But just what the factors are which originate the causal nexus between the peccant matter and its clinical manifestations promises to remain a fruitful source of speculation.

At this point a word as to the diabolical malevolence of gout may not be out of place. Unlike syphilis its transmissibility does not wane with a person's age. On the contrary the first children begotten by a goutily-disposed parent may escape the inheritance of the diathe-

sis, while with succeeding offspring the danger of its inheritance increases so constantly that the cadet of the family—in countries where the law of primogeniture prevails—has little to expect from paternal bounty outside of an organism which in time will yield him a fine line of uratic tophi, to say nothing of a chronic interstitial nephritis.

To sum up in a word the modern theories of the pathogeny of gout, they embrace the most plausible ideas of the humoralists and solidists combined; that is to say, they admit "peccant matter"—uric acid and its derivatives—which exert their noxious influence upon the economy, in part, at least, through nervous or trophic influences.

Viewing the subject broadly, but little objection can be offered to such theories, but we cannot refrain from expressing a certain degree of surprise at finding that one very noted exponent of the neuro-humoral theory who took part in the discussion at the International Congress, Sir Dyce Duckworth, still persists in locating the neural origin of the disease in the bulb. When this celebrated English author published his well-known treatise on gout several years ago, he then expressed the opinion that there was a bulbar center which had to do directly with the trophism of joints. This opinion he based on the fact that a certain observer, whose name now escapes us, found bulbar sclerosis in a case of locomotor ataxia which had been marked during life by the presence of that peculiar trophic disturbance in the joints known as tabetic arthropathy.

Now, from our present advanced knowledge of the anatomy, physiology and pathology of the nervous system, it is at once obvious that a bulbar center having any such specific function as Dr. Duckworth claims can only exist in the realms of fancy, and we are sorry to find him still retaining such a weak link in his chain of reasoning.

After all has been said, it cannot be denied that the pathogeny of gout is a most attractive subject. The truth of this is obvious from the fact that it has drawn to its study many of the brightest minds that have adorned the profession since the time when the disease first began to menace the well-being of humanity. Nevertheless we cannot refrain from saying that we believe the problem to be one which will continue to rear its sphinx-like countenance to numberless medical generations yet unborn.

OYSTERS AND INFECTION.

FROM the earliest times more or less suspicion has been cast upon shellfish—chiefly oysters and mussels—as being the cause of outbreaks of disease among consumers. For the most part these have been cases of sudden poisoning due to the presence of putrefactive products in the molluscs and diseases due to a specific micro-organism, where there is a period of incubation and where, therefore, a considerable interval has elapsed between the time of entrance of the germs into the body and the actual manifestations of the illness. In the latter case it is obviously far more difficult to establish the source of infection; and despite the frequent positive assertions crediting certain epidemics of typhoid fever to the consumption of oysters, it must be confessed that the alleged association of cause and effect in these outbreaks has more popular support than scientific demonstration. And yet, notwithstanding the absence of the clinching evidences of absolute proof, there is much in the connection between the two which makes it a possibility, indeed, a probability.

During recent years much public interest and apprehension have been raised by several outbreaks of enteric fever popularly attributed to oysters, such as that of the Wesleyan University in Connecticut, investigated by Professor H. W. Conn in 1894; that of Stirling Ball in October, 1895; and that in the south of France reported on by Dr. Chantemesse in 1896. It has been apparent from these and numerous other similar epidemics that the condition under which the shellfish were liable to contamination with sewage, and thus became the carriers of pathogenic organisms, required investigation. Studies pursued along these lines by Professor Herdman, of the Lancashire Sea-Fisheries Committee, and Dr. Boyce, of University College, Liverpool (*Thompson-Yates Laboratory Report*, Vol. 2, 1900), have thrown much light upon this important problem, the far-reaching significance of which cannot be too strongly emphasized.

Some very instructive and interesting experiments were made by these investigators on the feeding of oysters with normal feces and the feces of patients suffering from typhoid fever. It was found that oysters could, up to a certain point, render sewage-contaminated water clear, and that they could live for a prolonged period in water rendered completely opaque by the addition of fecal matter; that the fecal matter obtained from cases of typhoid was more inimical

than that obtained from healthy subjects. The results of the bacteriological examination of the pallial cavity of the oyster and of the contents of the rectum showed that in the case of those laid down in the open waters of the Bay the colonies present were especially small in number, while in those laid down in proximity to the drain-pipe of a town the number was enormous. In the case of the oysters grown in waters infected with the bacillus typhosus, it was found that there was no apparent increase in the organisms, but that they could be identified in cultures taken from the water of the pallial cavity and rectum fourteen days after infection. It was further determined that the bacillus of typhoid fever would not flourish in clean sea-water, and the experiments seemed to show that it decreased in numbers in its passage along the alimentary canal of the oyster. It would seem probable, then, that by methods similar to those employed in the *bassins de dégorgements* of the French ostreiculturists, where the oysters are carefully subjected to a natural process of cleaning, oysters previously contaminated with sewage could be freed of pathogenic bacteria or their products without spoiling the oyster for the market. Thus in a series of tests with oysters infected with the typhoid bacillus and subjected to a running stream of clean sea-water, the results were definite and uniform. There was a great diminution or a total disappearance of the germ in from one to seven days. Under ordinary conditions the colon group of bacilli is commonly present in shellfish as sold in cities, and especially in oysters—a finding which naturally suggests sewage contamination.

It need scarcely be remarked that if it becomes possible to cleanse infected oysters by a simple mode of treatment, such as that just mentioned, which will render them innocuous, a great boon will have been conferred upon both the oyster-trade and the oyster-consuming public. Those in charge of matters of public hygiene will find in this a theme for consideration.

PENNSYLVANIA STATE MEDICAL SOCIETY.

THE fiftieth annual meeting of this society held last week at Wilkes-Barre was a most successful one. The fact of there being an important strike in progress did not interfere either with the social or scientific features of the meeting, both of which were thoroughly enjoyable. To the Luzerne County Medical Society the success of the former is due. The latter were made manifest in a most varied program of papers of high value. The address of the President, Dr. George W. Guthrie of Wilkes-Barre, while on a subject so well gone over, was presented with a force and fervor worthy of its reader.

Several features stand out in the program which are worthy of emphasis, coming as they do from this, one of the oldest State medical societies of this country. The subject of water pollution and its municipal and State control was discussed quite thoroughly. It is to be regretted that the clashings of authorities shoud continue to stand in the way of effecting much needed reforms along these lines, yet such is the case in this as well as in many other States.

In the address on obstetrics by Dr. Noble of Philadelphia the significant fact was brought out that, although there had been a most marked reduction in the mortality among women in childbirth in the cities of this country, a like reduction could not be shown for the women of country districts. This would seem to indicate that efficient aseptic midwifery is not as widespread as it should be. He also spoke of the gradual and long-looked-for return to conservative surgery of the female generative organs. It is to be hoped that the era of reckless abdominal surgery in woman has been permanently ended.

In the symposium on typhoid fever Dr. H. A. Hare recurred to the important topic of variations in this disease. He emphasized the importance of recognizing the cases with sudden acute onset, and said that typhoid fever is much more commonly aberrant in type than is usually taught. He further brought out the interesting fact that the recent great increase in typhoid fever, due to the Spanish war, was accompanied by a very marked decrease in the already decreasing death-rate from this disease. Dr. Stengel, in discussing the treatment, plead for a wider choice of individual therapeutics. While the Brand method has undoubtedly given most excellent results, it is not necessarily to be used to the exclusion of all other modes of treatment. The use of camphor was recommended by him quite highly. This stimulant has long enjoyed a popularity with some practitioners and it has become once more a fashion to use it in place of, or as synergist to, alcohol. It undoubtedly deserves wider use.

These with other papers were widely discussed at the meeting which was attended by over 300 members. We present a complete report to our readers in this week's issue of the MEDICAL NEWS.

ECHOES AND NEWS.

NEW YORK.

Densest Population.—The daily press announces that the block bounded by Sixtieth and Sixty-first Streets, Tenth and Eleventh Avenues, New York, is the most densely populated block in the world. The new census shows it to have 6888 inhabitants.

Tuberculosis and Notification.—Dr. Black, Assistant Sanitary Superintendent of the Borough of Brooklyn, says that at least fifteen physicians in that borough have failed to report cases of tuberculosis. He has had one arrested and intends to make a test case.

Water Famine.—Should the present drought be unbroken, Brooklyn and the Bronx will suffer severely from the scarcity of water. Sensational newspaper articles are claiming a great increase in typhoid and malaria. The connection of the latter with diminished water-supply, or even the former, is difficult to trace.

Use of Soft Coal.—Dr. F. H. Dillingham, Assistant Sanitary Superintendent, reports that the Board of Health as yet has no outlined policy in regard to the enforcement of the ordinance against the use of soft coal. This ordinance is directed not really against the use of soft coal but against the increased amount of smoke caused by the use of it. As long as the smoke does not pass a certain limit the Board does not know or care how many factories use soft coal. In the present strike emergency the Board of Health does not intend to interfere with the industries of the city. But any attempt to use the cheaper coal indefinitely at the expense of the purity of the air will be checked.

Hospital for Consumptives.—Subject to the approval of the State Board of Health and the Forest Preserve Board the Commissioners of the new State Hospital for Consumptives have selected a site at Big Clear, near Saranac Inn station. The commission consists of Howard Townsend, Dr. John H. Pryor, Dr. Willis S. Macdonald, Walter Jennings and Frank E. Kendall, and their decision was reached at a meeting held at the Fort Orange Club in Albany. For reasons which were chiefly sentimental the site at Dannemora, which was the subject of a recent commendatory report by Commissioner Montanye, of the State Prison Commission, was not selected. Of the Big Clear site it was said in objection that it is near a large body of water and subject to heavy rainfall. The commissioners, however, felt that they did not care to associate their hospital with a locality in which a prison is situated, and decided on the more expensive site. It is understood that the two bodies that are to pass finally on the matter do not like the selection either from an economical or a sanitary point of view.

Malaria and Garbage.—An epidemic of malarial fever has broken out on Coney Island, and over 300 cases have been reported from various parts of the island. On one street thirty-six families were afflicted and the physicians in the neighborhood have their hands full. Dr. John F. Hill, of Gravesend, reported 140 cases, Dr. John F. Pierce 185 cases, and Dr. Sigmund Peck 60 cases. It is said in Coney Island that the epidemic is the result of the dumping of garbage from Brooklyn on the west meadows along Coney Island Creek. Last week sixty-five carloads of refuse were dumped on the meadows, and the residents of Coney Island are up in arms. The contractor who has had the garbage dumped on the meadows was arrested twice, but when arraigned in the Coney Island Police Court was discharged on both complaints. Dr. Hill says that the dumping of garbage on the meadows is an open violation of the laws relating to the disposition of city refuse. Mosquitoes are in great abundance about the garbage.

Havana and Yellow Fever.—The present outbreak of yellow fever in Havana does not, in the opinion of Dr. Doty, the Health Officer of the port, involve any danger to this city. "The condition of affairs in Havana is very bad indeed," said Dr. Doty last week, "and the work of stamping out the yellow fever there is made difficult by a considerable number of cases that are not reported to the authorities. But here in New York we need not be afraid of it. The inspection at Quarantine is made more laborious for us, and we may find a fever patient or two; but the disease cannot live in this climate, and there is not the slightest danger of its spreading. In the course of another month the weather will have become so much cooler that even the Southern cities will have little fear of it. A good frost is a sure protection. But there is a very serious side to the matter, and one that cries out for action by Congress. General Wood has done all that human skill and energy could do with the means at his disposal. He has cleaned up Havana as it never has been cleaned before, and still the fever lives. And the fever will continue to live, and break out every summer, until $10,000,000 or $15,000,000 are put into a first-class sewerage system for Havana. The streets there now are not properly graded or paved, and many of the sewers, where there are any sewers, cannot carry off the waste that is poured into them. A house built on the best sanitary principles may be set over a choked sewer or sewage-soaked ground, and then all its fine plumbing is worthless. Nothing but a thorough system of new sewers and the removal of the wooden work on the waterfront can secure safety. Congress must do this work. The Cubans never will do it, for they are immune to the fever, and don't care. And besides that, they won't spend the money. It is of the highest importance, in my opinion, that Congress should take hold of this matter. Business reasons alone demand it. The

fruit trade is practically shut out from the Gulf ports during the summer, no one can come from Havana to this country by way of Florida, and even the shipping to New York is subject to serious delays ad restrictions. Havana must be made clean, and Congress must pay for the work." Over 100 cases of yellow fever are now under treatment in the city of Havana. During the month of August there were 54 cases with 49 deaths. The disease is practically epidemic.

PHILADELPHIA.

Obituary.—Dr. W. Scott Wolford, formerly coroner's physician, died September 18th after a long illness. He was associated in practice with the late Dr. Chapman.

Homeopathists in Session.—The thirty-sixth annual session of the Homeopathic Medical Society of Pennsylvania was held in Wilkes-Barre, September 25-27th. The Society is seeking the establishment by the Legislature of a hospital where insane patients may receive homeopathic treatment.

Company Physicians.—The strike of the anthracite coal miners has brought up a question which is interesting to the medical fraternity. The miners demand the abolition of company physicians, paid by the retention of a certain amount of their wages. Several of the operators state that such a rule is now enforced at very few mines, the miners being allowed to select their own physician.

Quarantine Station Wrecked.—To avoid collision with another boat the British steamer "Fallodon Hall" was run into the artificial island upon which is built the Reedy Island quarantine station. The accident occurred during a fog September 22d. The signal tower was carried away and the disinfecting barracks badly damaged.

The Duties of Parenthood.—Under the auspices of the Pennsylvania Society of Mothers a course of Monday afternoon lectures is to be given, beginning October 1st. The subject will be "Life and Education" and the aim is "to develop wiser and better-trained parenthood, to establish kindergartens and laws which will adequately care for neglected and dependent children, and to establish juvenile courts which will rescue instead of confirming children in evil ways." Men will be admitted to active membership in the Society.

Health of City Exceptionally Good.—The past week has shown a better health average than for the corresponding period of the last three years. One case of smallpox was discovered in the twenty-second ward. The only disease unusually prevalent is diphtheria, 101 cases being reported. A commission has been appointed to condemn land in various localities for the inauguration of filtering plants. The Mayor has suggested that in connection with these plots buildings might be erected to relieve the overcrowded condition of the insane wards of the Philadelphia Hospital.

Politics Charged with Continuing Nuisance.—The citizens at Thirty-seventh and Wharton Streets are vainly trying to secure the abatement of a nuisance in the shape of dust from two paving companies' plants. The plants were ordered closed by the Board of Health, but the order was ignored. A later report of the medical inspector practically ignored the plants. A councilman is part owner of one plant and the present Board of Health was appointed by the Mayor, the old board being abolished at his request. The matter has been carried to the courts by interested citizens.

Jefferson Medical College Hospital.—This hospital has responded nobly to the calls for help from the Galveston sufferers. Besides furnishing medical supplies, the first relief train sent out by the *North American* carried a physician and eight nurses from the hospital corps. A large tent has been erected and this improvised hospital bears the best record of any established within the zone of the disaster. The corps is under the charge of Dr. E. R. Kennedy.

State Medical Society Notes.—The oldest delegate present was Dr. J. A. Ehler of Lancaster. He is eighty years of age, was at the first meeting of the society, and is still in active practice. A special vote of thanks was tendered the Wilkes-Barre papers for the unusually accurate reports of the meeting.—The discussion on State laws elicited the fact that a school of osteopathy in Wilkes-Barre has 150 students, each of whom pays an annual tuition of $300.—The resemblance of the newly-elected President, Dr. T. D. Davis, to President McKinley led to a laughable incident Thursday. Dr. Baldy of Philadelphia impeached a certain member of the society, denouncing him in strong language for a breach of professional etiquette. The crime of the gentleman consisted in scattering broadcast through the town his own picture. When the society was in a high state of excitement the speaker uncovered a portrait of McKinley and the laugh was on Dr. Davis.

CHICAGO.

Elephantiasis.—A Mrs. Griswold, colored, recently died at the Cook County poor-house of this disease. Up to the time of death she weighed 500 pounds. It is said that her limbs were the size of an average man's body. For several months she practically lived in a chair. Her coffin was seven feet long, four feet wide, and three feet deep.

Arrival of Dr. Barker.—Dr. L. F. Barker, from the Johns Hopkins University, has assumed his duties as Director of the Department of Anatomy at the Chicago University and at Rush Medical College.

Drug Adulteration.—At a recent meeting of the Wholesale National Drug Association, held in this city, the manufacturers and jobbers who sell adulterated drugs were roundly scored. A

committee of the Association made the following recommendations: That we deprecate the sale of misbranded and adulterated foods and drugs; that we constantly keep before us the importance of quality in the products we sell, on many of which life is often dependent; that we reiterate our endorsement of the Brosius pure food and drug bill; that we label correctly and definitely all goods we sell; that we carefully consider the advisability of advocating the sale by assay, chemical or otherwise, of the drugs and medicinal products which contain alkaloids, resins, oils, oleoresins, and essential oils.

State Laboratories.—Dr. Frances Dickinson, President of the Illinois Educational League, is making an effort to secure from the State Legislature an appropriation of $50,000 to be used in establishing in Chicago and in other cities of the State laboratories for the teaching of the sciences of physics, chemistry, bacteriology, biology and microscopy, and for extension courses throughout the State in sanitary and agricultural sciences. It is intended that the laboratories shall be open in the evenings, to enable bread-winners to procure a higher education than they are able to get now.

Physicians' Club.—At a meeting, held September 24th, the requirements for admission to medical schools were discussed. The discussion was opened by Professor O. W. Small of the University of Chicago.

College of Physicians and Surgeons.—The following appointments have been made in this medical school: Dr. Harris E. Santee, Professor of Anatomy; Dr. John L. Porter, Professor of Orthopedic Surgery; Dr. Joseph M. Patton, Professor of Physical Diagnosis; Dr. Daniel N. Eisendrath, Professor of Clinical Anatomy; Dr. Don L. Shaw, Professor of Anatomy; Dr. Julius H. Hoelscher, Professor of Clinical Medicine; Dr. Bernard Fantus, Adjunct Professor of Materia Medica; Dr. August F. Lemke, Adjunct Professor of the Practice of Medicine; Dr. Edward H. Lee, Adjunct Professor of Practice of Surgery; Dr. James M. Neff, Adjunct Professor of Practice of Medicine; Dr. A. E. Baldwin, Adjunct Professor of Stomatology; Dr. Eugene R. Whitmore, Adjunct Professor of Chemistry; Dr. Samuel J. Walker, Adjunct Professor of Clinical Anatomy and Instructor in Surgery; Drs. Edward F. Wells, William K. Jaques, and James W. Walker, Adjunct Professors of Practice of Medicine; Dr. Leo Loeb, Assistant Professor of Pathology; Dr. William H. Rumpf, Instructor of Gynecology.

GENERAL.

Pollution of the Navesink.—The residents of Red Bank, N. J., are up in arms over the pollution of the river from which they derive their revenue. The oyster-crop is said to be rendered totally unfit for sale.

Bee-Sting Causes Death.—A death from the effects of a bee-sting followed by septic poisoning is reported from Paterson, N. J.

American Association of Obstetricians and Gynecologists.—The officers for 1901 were elected as follows: President, Dr. W. E. B. Davis, Biringham, Alabama; First Vice-President, Dr. Edwin Walker, Evansville, Indiana; Second Vice-President, Dr. A. Goldspohn, Chicago, Illinois; Secretary, Dr. William Warren Potter, Buffalo, New York, re-elected; Treasurer, Dr. X. O. Werder, Pittsburgh, Pennsylvania, re-elected. Cleveland, Ohio, was selected as the place for holding the next annual meeting; time, second Tuesday in September, 1901.

Vienna University Changes.—Docents L. Königstein, Solomon Ehrmann, Jacob Pal, Emil Redlich and Anton Elschnig have been appointed "ausserordentlichen" Professors. Dr. Ludwig Braun has been appointed Docent.

The Xi-phopages Twins.—The MEDICAL NEWS of March 5th described the first operation on these twins. Later reports show that Marie died as a result of the operation. Rosalina survived, however, and has just arrived in Paris where she expects to present herself to the scientific societies of that city and of the other European medical centers.

Poisoning by Laburnum.—The Bradford Cinderella Club of England recently took 600 children from the slums to the country. Some twenty developed symptoms of acute narcotic poisoning from eating laburnum pods. All of the children recovered.

Death from Canned Tomatoes.—A death in England is announced of a boy from eating canned tomatoes. The post-mortem evidence was conclusive.

Plague at Glasgow.—The situation at Glasgow has settled somewhat. After the temporary flare-up of last week the number of reported cases has fallen markedly. At the present time there are but forty suspects under observation; fifteen cases are being treated; seven deaths have occurred.

The Reformation of America.—The following charming bit is just received from England, although a trifle belated. *The Bristol Medico-Chirurgical Journal* of June makes the following comments regarding its own potent influence on the medical world. "Its circulation now extends from China to Peru. There is not a country in Europe where its influence is not felt. *It is reforming the American continent from Canada to the Brazils.*" We have been noticing the reform and are glad that we now know whom to thank.

Yale Notes.—Prof. George Trumbull Ladd, of the department of psychology and mental philosophy at Yale, has returned from his long tour among the national universities of Japan, India and Egypt. He visited the Paris Exposition in

August as an American delegate to the International Psychological Convention.

New College Buildings.—Several important new buildings are to be opened soon at leading educational institutions of New England. It is reported that the Harvard medical school will be moved to Brookline soon. The medical, veterinary and dental departments, now in various parts of the city, will be united and equipped with a museum and new laboratory. The future school with its grounds will cover twenty-seven acres and will cost $1,000,000.

Science and Pharmacy.—During the recent International Congress of Pharmacy held at Paris a monument was unveiled to Bertrand Pelletier and J. B. Caventon, who are celebrated as the discoverers of brucine, strychnine, and quinine. These two renowned pharmaceutical chemists, when they had discovered quinine, immediately presented the results of their investigations to the Paris Academy of Sciences on September 11, 1820, thus placing this important drug at the command of the medical profession. Instead of keeping their discovery secret, they published a full account of their methods and results, and stated how they had been able to isolate cinchonine and quinine from both yellow and red cinchona bark, and also added their observations on the therapeutic properties of these substances. For their discovery and the valuable services rendered to science they received the Montyon prize of the Academy of Sciences, and the monument now erected is a further testimonial to their services to science and humanity.

Railroad Disinfection.—The Cleveland, Cincinnati, Chicago and St. Louis and the Chesapeake and Ohio will make experiments with new railroad coaches, which are to be constructed on a more sanitary principle than the present carriages, conforming as nearly as possible to recommendations of the Railway Surgeons' Association. According to the views of this organization, there are many things in the modern coach which tend to catch and retain dirt and filth, and which offer hiding-places for many disease germs. The plainer the build inside and the fewer decorations and fineries a coach contains the better it is for the travelling public. Sanitation, it is alleged, has been sacrificed to comfort. Plush seats and carpets on the floor are especially objectionable. Steam-pipes should remain uncovered, and fancy cornices and filigree work on sides and ceilings should be done away with. The reception of these cars by the public will be watched with interest by all the railroads, as their success will mean a great saving of expense and trouble to the roads.

Doctors Combine.—The Physicians' Business Association, recently organized in Detroit, would be more appropriately called the Detroit Physicians' and Surgeons' Union No. 1, *The Tribune* of that city says. In intents it is a union, its chief object concerning wages. "If any employer refuses to pay his doctor, or insists on compensating him with wages below the union scale," *The Tribune* explains, "the doctor will strike, just as the miners have struck—that is, he will refuse to treat him any more, refuse to work for him. All the other union doctors must likewise strike, and refuse treatment to the employer who refuses honest pay for honest service." At the first meeting of the Association there was violent talk on a proposition to boycott doctors who should refuse to join the Association. A section of the constitution offered for approval went so far as to provide that Association members should refuse to recognize as physicians, either personally or professionally, such boycotted doctors. There was at first some objection to so radical a measure, but the vote showed that the sentiment favored it in overwhelming measure.

Drunkenness in London.—A parliamentary return on the working of the Inebriates Act, under which the Magistrates are able to commit habitual drunkards to inebriate reformatories, discloses the startling fact that of ninety-two such convictions ninety were women. Such convictions would be more numerous but for the fact that State reformatories do not exist, but it is significant that of the six institutions existing five are for females. Within the London Metropolitan police district there are 11,000 public houses. The temperance reformers say that this oversupply is greatly responsible for the fact that there were 46,899 arrests for drunkenness in London in 1897, but whatever may be the moral effect one result of the great number of licensed liquor shops is certain, *viz.*, the hindrance of street improvements in London, for the value of the licenses in addition to the cost of acquiring property must be paid by the rate-payers. An example of the seriousness of this cost is seen in the case of an avenue now being made connecting the Strand with Holborn. The purchase price of liquor licenses along a route of less than half a mile in length was over £100,000. This has been the cause of the abandonment of many desirable improvements in London.

Obituary.—Dr. I. Zacharie, an old resident of New York but established in London as a chiropodist and bonvivant, has just died in London. —Dr. Richard H. White of 120 West Forty-eighth Street, died of phthisis in Liberty, N. Y., September 22d at the age of thirty-two years. He graduated from the University of Toronto and devoted his time subsequently to the study of tuberculosis. Dr. White leaves a widow and one daughter.—Dr. Max Schaeffer of Bremen, specialist in diseases of the larynx, died recently while making an Alpine tour.—Dr. Preston B. Scott of Kentucky died Monday, 24th, aged sixty-eight years. Dr. Scott came of an old Kentucky family. His father was a prominent figure in Frankfort in which place Dr. Scott was born. After the war Dr. Scott settled in Louis-

ville and became widely known throughout the State. He was President of the Association of Physicians and Surgeons of the Confederate Army and Navy. He has a brother who is also a physician.—Dr. James Hart Curry, who had practised medicine for over fifty years in Westchester and Putnam Counties, died recently at Shrub Oak at the age of seventy-three. He was educated at the Peekskill Military Academy and the Yale Medical School, from which he was graduated in 1852. He served in the war as a surgeon in the Eighteenth Regiment, New York Volunteers. For some years he was President of the Yale Medical Alumni Association.

Pasteur Institute in India.—David Semple, M.D., major in the British Army Medical Corps, formerly assistant professor of hygiene at Netley, the first officer appointed to the Pasteur Institute in India, opened recently at Kasauli, and he will assume the chief superintendence.

Electricity in Medicine.—The tenth annual meeting of the American Electro-Therapeutic Association was held this week at the New York Academy of Medicine.

American Public Health Association.—The twenty-eighth annual meeting of the Association will be held at Indianapolis, Indiana, beginning October 22d and continuing until October 27th. A long and varied program is announced.

Risked Life for Diploma.—Dr. Lester Winn of Borough Park, Brooklyn, nearly lost his life September 25th, while attempting to save his diploma of the College of Physicians and Surgeons from his burning residence at Fourteenth Avenue and Fiftieth Street. When the fire was first discovered it was with difficulty that the doctor and his two servants were aroused and carried out by the firemen. A few minutes later Dr. Winn rushed back in the burning cottage for his diploma, which was in the front room on the second floor. He succeeded in finding it, but while groping about the lower vestibule was overcome by smoke. Fireman Cantwell found the physician unconscious on the floor and dragged him to the open air, where he was revived. The diploma was recovered, after the fire had been extinguished, near the spot where the doctor had fallen unconscious.

Identification of Criminals.—Through an arrangement made at Cleveland, Ohio, this week, between Superintendent of Prisons Collins and the representatives of nearly all the penal institutions in the United States that use the Bertillon system of identification, the State central bureau of identification at the capitol in Albany will be used as the central bureau for all these institutions. It is hoped by such an interstate system that the identification of criminals will be facilitated and life and property will be more secure.

OBITUARY.

THE life of a physician makes perhaps the most interesting of all biographies. And those who are themselves physicians know what it means to have lived a life of increasing fame. Between the lines that are crowded with mention of honors and success, they can read the long years of patient preparation, the steady enthusiasm, the persistent effort, the untiring patience that have made their names great.

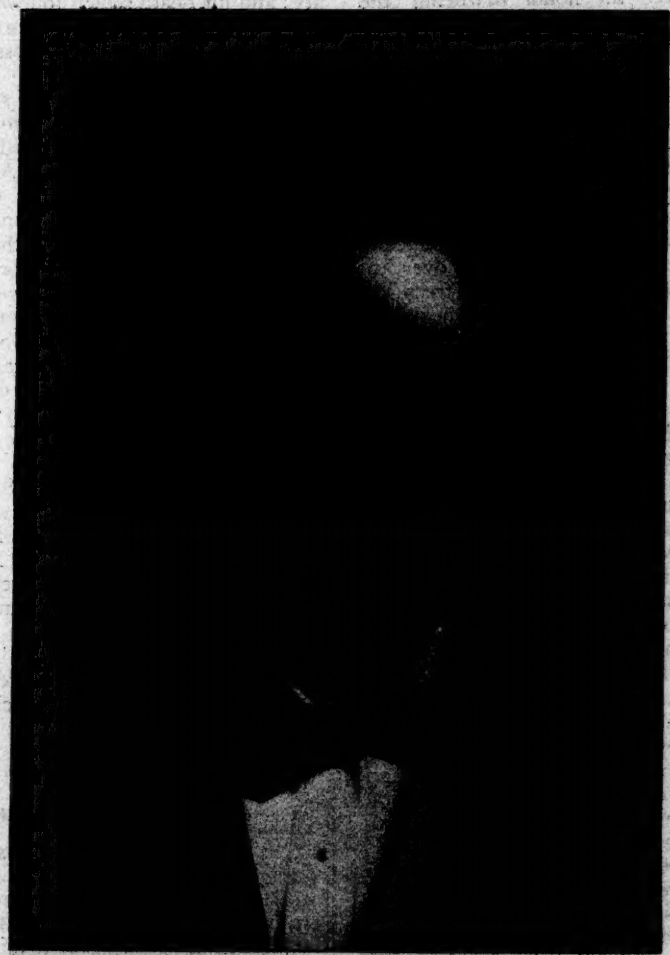
It is like reading a death-roll of heroes to see in the same obituary columns the deaths of three such famous men as Dr. Hunter Holmes McGuire, Dr. Lewis A. Sayre and Dr. Alfred Stillé. All were elderly men, the last two very old. All were men of world-fame, and all will be mourned by their profession.

DR. HUNTER HOLMES McGUIRE.

WHEN a man is not only a physician, but a soldier, a scientist and a patriot, when he has seen thrilling service in wars, when he has made advances in the world's science, and when he has associated himself intimately with affairs civic, the life reads more like a novel than a biography. Such a man was Dr. Hunter Holmes McGuire who was born in Winchester, Va., 1835, and who died on September 19, 1900, at his country home on the Broad Road, Richmond, Va.

Dr. McGuire's character and power were not of the order of the self-made man, who triumphs in spite of circumstances, but of that finer, deeper kind that comes through heredity and careful training. He was descended directly from Thomas Mor McGuire, Lord of Fermanagh, Ireland, who was born in 1400, and was the son of Dr. Hugh Holmes McGuire, a prominent physician and surgeon in the South. From his father he received that careful preliminary training so essential to scientific development, and during his childhood lived in an atmosphere of intellectual progress. It was in the Winchester Medical College, of whom his father was one of the founders, that he began his medical studies, and it was from his father that he received his first instruction in surgery. He graduated in 1855 and then planned to continue his studies in Philadelphia at the University of Pennsylvania and the Jefferson Medical College; but ill health compelled him to relinquish this idea and he returned to Winchester where he served one year as professor of anatomy in the Medical College; but in 1858, feeling the need of greater clinical opportunities, he left the practice that he had started and returned to Philadelphia. There he not only carried on his advanced studies, but organized a large quiz-class for medical students that was largely attended by the Southern men. It was owing to this intimate relationship as an associate of these students that his power rose as a leader, and when at the time that John Brown's body was brought through Philadel-

phia, and the city was aroused to a pitch of great excitement, Dr. McGuire led three hundred students to Richmond where they felt that they could continue their studies under more favorable circumstances. There they were received with a stirring patriotic speech by Governor Henry A. Wise, and were matriculated without charge by the Medical College of Virginia. The city council even reimbursed the patriotic band to the extent of their traveling expenses; and



HUNTER HOLMES MCGUIRE, MD., LL.D.

Dr. McGuire received his degree of Doctor of Medicine a second time from the college.

It was during the following year, while Dr. McGuire was studying and teaching another quiz-class in New Orleans, that the secession of South Carolina occurred; and fired with that patriotic spirit which has characterized his whole life as a citizen, he hastened home and volunteered as a private in Company F, Second Virginia Regiment, and marched on April 1, 1861, from Winchester to Harper's Ferry; but he was soon commissioned surgeon in the Virginia State forces, and then was appointed medical director of the Army of the Shenandoah, then under command of General T. J. Jackson.

It was during those years of the war that the young surgeon, not thirty years of age, did the brilliant work that recommended him to the personal friendship of his General, to whom he rendered the hero-worship of the youth, combined with the man of genius. In all battles his services were reported with commendation, and his efforts to better methods of medical field service were supported by the commander, who recognized his ability and zeal. He organized the Reserve Corps Hospitals of the Confederacy, and perfected the ambulance corps; and from his experience evolved the daring and successful operations in abdominal surgery, which he presented after the war in a paper read before the American Medical Association. In this he advocated operative intervention in gun-shot wounds of the

abdomen. Prior to that time bullet-wounds in the intestines were inevitably fatal, and the United States Surgeon-General, in his report of the war between the States at that time, stated that there was not a well-authenticated case on record that recovered without an operation. This paper of Dr. McGuire's excited much attention and did much toward establishing the frequency of such operations which now save 67 per cent. of the lives. With Dr. Sims and Dr. Kinloch, Dr. McGuire shared the honor of being the pioneer in this branch of surgery, and his "Chapter on Gunshot Wounds" is one of his most noted surgical works.

It is not to be wondered at that the friendship of Jackson, Lee, Early and Elwell, whom he attended when sick or wounded, bound his sympathies to the Southern cause. His personal attendance on General Jackson, in whose Stonewall Brigade he was surgeon, the gift of a sword from his own hand, and his memory of the commander's last word's, "Let us cross over the river, and rest under the shade of the trees," as he ministered to him in his last moments, all served to arouse in him the strong patriotism, which after the War showed itself in his public-spirited efforts on behalf of the South. He kept alive by personal anecdote and stirring articles of reminiscence the tales of Southern heroism that form as integral a part of the nation's history as those of the triumphant North; and he took a prominent part in the investigations of the histories used in his State, and was instrumental in having those by Southern authors, and books containing the spirit of Southern literature used in the schools. All important topics concerning the advancement of the South were dear to him, and he gave his time and his advice freely to matters of public welfare.

After the war was over Dr. McGuire, who had finally been made the Medical Director of the Army of the Valley under Early until the surrender at Appomattox, returned to private life and began the practice of medicine in Richmond, practically a poor man. But the genius that had won him recognition even in his student days soon brought him practice. He was appointed to fill the chair of surgery in the Medical College of Virginia, as successor to Dr. Charles Bell Gibson. Popularity soon passed into fame. His successes were striking, his work original and careful, and his investigations those of a profound and critical thinker. His practice increased throughout the State and his advice was sought by his most distinguished contemporaries; and yet throughout the busiest days he found time for individual philanthropic work among the poor, and for personal sympathy and advice, especially to students and young men, whose friend he had been ever since his own student days.

In 1866 Dr. McGuire married Miss Mary Stuart of Staunton, Va., daughter of the Hon. Alex. H. H. Stuart, who was Secretary of the Interior under President Filmore, and had nine sons and daughters, all of whom, as well as their mother, survive him. Added to his family life and his professional clientèle was a large social circle of the most prominent people in Richmond and Virginia, among whom he was one of the most conspicuous figures. So widely known was he that when on the 19th of March of this year he was suddenly stricken with paralysis which rendered him speechless and helpless the profoundest regret was expressed throughout the city; and his death which followed six months of suffering was a source of sorrow to hosts of friends, and a loss to the professional men of the whole country.

Dr. McGuire's remarkable successes in lithotomy, lithotrity, and ovariotomy, and his works upon surgical subjects attracted the attention of surgeons in Europe as well as America. He was the friend and contemporary of such men as Sims, Campbell and Butty, and without doubt one of the greatest surgeons that the South has ever produced. All the honors that his State and country could give him were his. The degree of Doctor of Laws was conferred upon him in 1887 by the University of North Carolina, and in 1888 by the Jefferson Medical College of Philadelphia. He was president of the Richmond Academy of Medicine in 1869; of the Association of Medical Officers of the Army and Navy of the Confederate States in 1875 and of the Virginia Medical Society in 1880. But his truest honors were in the works in which he was engaged. As president, and professor of surgery of the University College of Medicine, and as surgeon-in-charge of St. Luke's Home for the Sick, he did work that will stand as a monument to him. Doubtless there is not a surgeon throughout the land but will pay his memory the tribute of a reverent regret and the appreciation of the brilliant far-reaching work of his full and eventful life.

DR. LEWIS A. SAYRE.

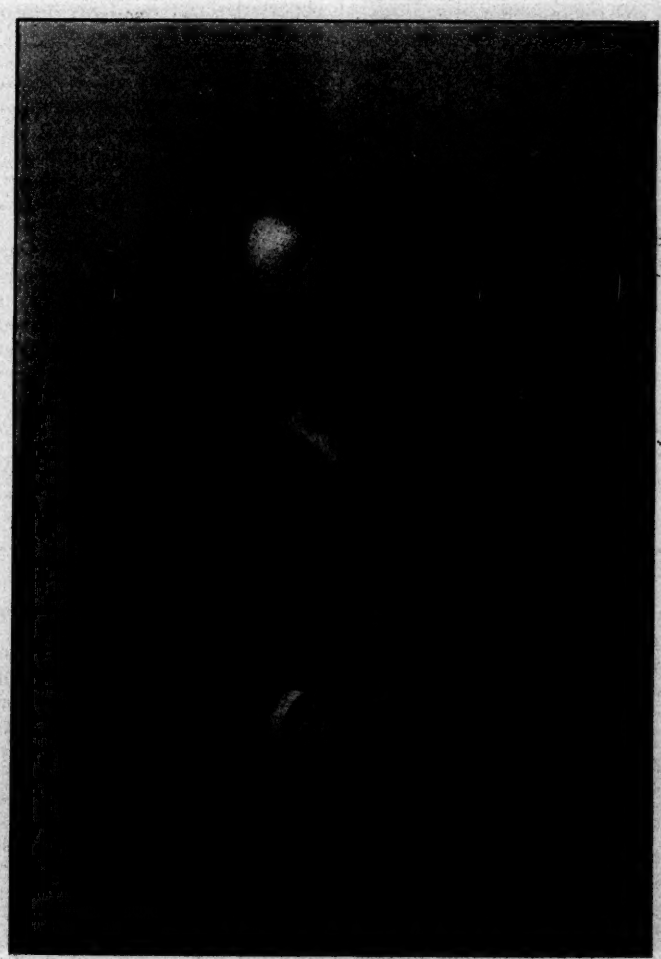
DR. LEWIS A. SAYRE, whose name for fifty years has been a synonym for some of the most brilliant work in orthopedic surgery, died quietly at his home on September 21, 1900. For a year his health had been gradually failing and he had given up all active work; but no illness, other than the natural failing of old age, caused his death.

Dr. Sayre was born in 1820 in the town of Madison, N. J., and has been essentially a New York man, having pursued his medical studies at the College of Physicians and Surgeons, and gained his experience and made his discoveries in the clinics of this city.

Dr. Sayre had some amusing experiences while he was a medical student which he was fond of relating. The College of Physicians and Surgeons was then at 65 Crosby Street, near Spring. One day Dr. Post, one of the operating

surgeons, was about to cut off an Irishman's leg. Young Sayre had made complaints that the talks in connection with the operation were not explicit enough, so Dr. Post went into an elaborate exposition of flaps and circular flaps, the application of the tourniquet in amputations, the stoppage of hemorrhage by hot iron, and the various kinds of amputations.

The Irishman lay on the operating-table in full possession of his faculties, and as he listened to Dr. Post's discourse he grew whiter and whiter.. Finally he jumped from the operating-table crying, "Get me me breeches, be gob; I'll die with me leg on!" And with that he was out of the room. The patient was a fireman who had been injured while going to a fire. Dr. Sayre found him several days later in a Watts Street dive, with his knee badly swollen. The young doctor had heard a lecture that morning on "tactus eruditus," so he performed an operation on the fireman's knee, opening the swelling and then binding up the wound. The rest is best told in Dr. Sayre's own words: "When my preceptor, Dr. Green, heard of what I had done he swore a blue streak. 'My God!' he said, 'you have opened the joint, something surgery abhors, a thing no surgeon ever did in the world.' But my patient got better. One day I had no lint to bind his wound with, so I used the tow stuffing sticking out of an old horsehair sofa. When I called again I found the wound open and free from pus, I could only conclude that the tow had caused the difference. I reasoned from this that tow, dipped in Peruvian balsam, would not only disinfect a wound, but would keep it free from pus. And this was the foundation of one of the most satisfactory successes I ever had in surgery. It was the means of introducing into the army the use of tarred hemp, or oakum, as a dressing for wounds. My fireman got well, and for twenty years sold apples from a stand at the corner of Broadway and Prince Street."



LEWIS A. SAYRE, M.D.

On reaching his degree in 1842 he was appointed prosector to Dr. Willard Parker, who was then professor of surgery in the College of Physicians and Surgeons, and held the position for ten years, when he became surgeon to Bellevue Hospital. Later he was appointed surgeon to the Charity Hospital on Blackwell's Island. It is interesting to note that Dr. Sayre gained his experience, as have done so many of New York's most famous men, in the city's institutions. In those days, as still, the service was severe, exacting and exhausting; but the experience was and is most varied and profitable. Thousands of the city's poor, the halt and the maimed, passed through Dr. Sayre's hands; and from them he learned the arts that have saved other thousands from deformities.

One of his patients, who had in youth been treated for Pott's disease by him, and had grown to be tall and strong, said that it was a not unusual sight to see the children who thronged his waiting-room run and throw their arms about him, begging to be made straight and well like others he had cured.

Dr. Sayre was tendered the position of resident physician of New York by Mayor Fernando Wood in 1860, despite the fact that he had bitterly opposed Mr. Wood's election. This position he accepted and continued to hold under Mayors Wood, Gunther, and Hoffman. During his incumbency New York was given a series of reports dealing with sanitary problems, such as the city had never known before. Dr. Sayre, who was known for his use of vigorous English, and for his progressive medical ideas, attacked first the lack of caution in preventing the spread of smallpox, and was untiring in his efforts to procure compulsory vaccination. The tenement-house evil, which had become apparent as early as 1865, was then taken up by him, and marked improvements resulted. His most important act at this period, however, was the detention of the cholera-infected ship "Atlanta" in the lower bay in 1865. Up to that time cholera was considered to be merely epidemic, and even the physicians of Boston in an official report the same year declared that "the disease is epidemic and cannot be restrained or controlled in its progress by quarantines or cordons of any kind."

To Dr. Sayre belongs the credit of having discovered that cholera is a contagious disease. Through his efforts all ships suspected of having cholera on board were quarantined, and the disease prevented from obtaining a foothold in New York. It was a long time before Dr. Sayre's theory was accepted in medical circles, and for many years New York was the only port where quarantine regulations in regard to cholera were enforced.

He performed the first successful operation for hip disease in this country in 1854; and then demonstrated his method before the medical colleges and societies. Lister, who was a delegate to the International Congress at Philadelphia in 1876, said that this demonstration alone was a sufficient reward for his voyage across the Atlantic. He again gave a series of demonstrations of his treatment of hip-joint and spinal disease as a delegate to the British Medical Association in 1877, before the University College Hospital, Guy's, St. Bartholomew's, St. Thomas', and the Royal Orthopedic Hospital in London. In 1894 at the International Medical Congress in Amsterdam, as well as at similar congresses in London, Copenhagen, and Washington, he read papers descriptive of his improvements and discoveries in the treatment of Pott's disease and various spinal complaints. Thus, he has disseminated the results of his patient, indefatigable work on these hitherto hopeless diseases, for the benefit of humanity, so that the surgeons of two continents have looked to him for their advance in these lines. His practical grasp of orthopedic and spinal surgery has shown itself in the invention of many instruments, in the adaptation of the plaster cast in the treatment of spinal diseases, as well as in many treatises on the subject. Dr. Sayre was at the time of his death a member of the most important medical societies and consulting physician to Bellevue Hospital, City Hospital, St. Elizabeth's Hospital and the Home for Incurables. He was, with his scientific progress and fame, distinctly a healer of the people, and no eulogy of print or press could be as strong as the heart-felt gratitude of the multitudes whom he has saved by his personal treatment, from lives of pain or deformity.

DR. ALFRED STILLE.

THE oldest of the three noted physicians who have almost simultaneously finished their work was Dr. Alfred Stillé, who died at his home in Philadelphia, September 24, 1900, after an illness of six months. He was eighty-seven years of age, having been born in 1813. He belonged to an old Pennsylvania family of Swedish origin. In the days of William Penn the land of Olof Stillé, his ancestor, who had settled near Philadelphia in 1638, was known as Stillé's Land, and is now the only homestead of those early Swedish settlers that is known. With the prosperity of the city, the family grew in power, so that the accumulated energy and thrift and culture gave this son of the early century advantages which were sufficiently great to prepare him adequately for the wave of scientific investigation of the last fifty years.

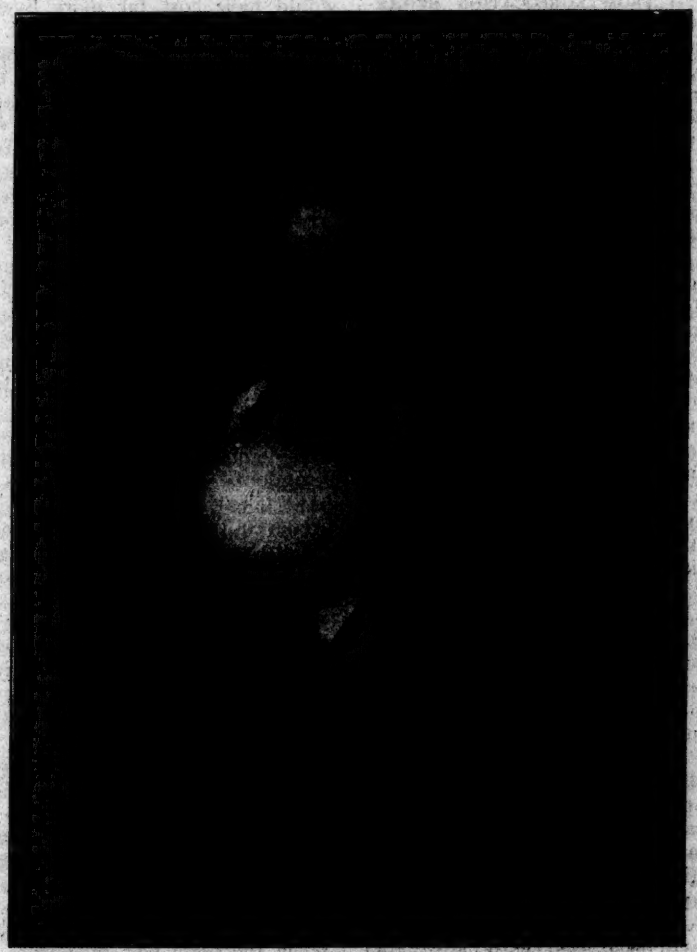
Dr. Stillé was educated at the University of Pennsylvania, receiving his degree of M.D. in 1836, and was then elected resident physician at the Pennsylvania Hospital. Later he went abroad and continued his studies in Paris and other European capitals, thus laying the foundation of the scientific work which has made him famous.

Although Dr. Stillé was widely known in his

own city as a practising physician, both as attending physician to St. Joseph's for thirty years and as lecturer on pathology and the practice of medicine for the same length of time in the Pennsylvania Medical College, and the University of Pennsylvania; yet his fame throughout America and Europe rests chiefly on his scientific laboratory work. He was a careful, minute observer, a bold and patient experimenter, an indefatigable and brilliant writer. His lectures, his books, and the vast output of his laboratory work made his name widely known in America and Europe.

All the honors that Philadelphia and the medical societies to which he belonged could bestow upon Dr. Stillé were his. He was one of the secretaries of the convention out of which grew the American Medical Association, and for several years was a secretary of the latter body. He was president of the Philadelphia Pathological Society from 1850 to 1863, of the County Medical Society in 1862, of the American Medical Association in 1871, and of the Philadelphia College of Physicians in 1883, and a fellow of many other medical and learned societies. In 1876 an honorary degree of LL.D. was conferred upon him by the Pennsylvania College at Gettysburg.

Dr. Stillé's writings are standard works, and are masterly and scholarly productions. Among the works he contributed to literature are "Humboldt's Life and Character," "War as an Element of Civilization," "Othello and Desdemona;" while those on scientific subjects are voluminous and many. Perhaps the most prodigious work was the "National Dispensatory" (with John M. Maish), a work which has brought the science of pharmacy into definite relationship with that of medicine. His "Therapeutics and Materia Medica" is a well-known standard work, and his "Epidemic Meningitis" and "Epidemic Malignant Cholera" are works of original research that marked an epoch in the science of the nation.



ALFRED STILLÉ, M.D., LL.D.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, September 15, 1900.

THE SOUTH AFRICAN HOSPITAL COMMISSION—ARRIVAL OF THE COMMISSIONERS AT CAPE TOWN—PROGRESS OF THE INQUIRY—MR. KENDAL-FRANKS' REPLY TO MR. BURDETT-COUTTS' CHARGES—DEATH FROM SUFFOCATION BY ARTIFICIAL TEETH—THE OUTBREAK OF PLAGUE IN GLASGOW—DISPATCH OF DR. JENKINS OF THE NEW YORK BOARD OF HEALTH AND DR. THOMAS OF THE UNITED STATES MARINE HOSPITAL SERVICE—ELABORATE PRECAUTIONS IN THE PORTS OF THE UNITED KINGDOM.

THE South African Hospital Commission arrived at Cape Town on August 24th and at once proceeded to take evidence. Prof. Dunlop of the Glasgow Royal Infirmary, who had given his services in field gratuitously, said that he was at the Wynberg Hospital for six months. There were plentiful supplies but excessive red tape. He thought that the Army Medical Department was not sufficiently advanced in modern surgery and that leave for the purposes of study should be given to Army doctors. The Commissioners inspected the Woodstock Hospital and examined 20 soldiers. They made practically no complaints except as to the lack of orderlies and doctors. Colonel Supple, of the Royal Army Medical Corps, said that 31,305 sick had been treated in the base hospitals at Cape Town and the mortality had been 1.15 per cent. The principal cause of death was pneumonia. Mr. Kendal-Franks of Dublin, one of the consulting surgeons to the forces, who was at Bloemfontein at the period to which Mr. Burdett-Coutts' charges apply and who took part in the march to Johannesburg and thence to Pretoria, has written a very long letter to the *Times* in which he characterizes Mr. Burdett-Coutts' charges as hysterical word-painting and says that, although he has seen unavoidable overcrowding, he has never seen in any hospital anything corresponding to the condition described by that gentleman. As to his insinuations that while the hospital tents were overcrowded many public buildings, which could have been used with advantage, were not, because they were used by staff officers; he points out that as the supply of nurses and doctors was below what was required, it was necessary to house the wounded so that the greatest advantage could be taken of the limited personnel. Each house which would accommodate, say six staff officers, could hardly take more than 16 or 18 patients and would require a couple of nurses and orderlies in addition to a cook and servants. Where were they to come from? Moreover, an enormous amount of extra work would be thrown on the already overworked medical officers. No lack of provision was made for the sick and wounded. The difficulty lay entirely in getting supplies up from the base, especially at Paardberg and on the march to Bloemfontein. The supreme importance of following up Cronje with the greatest rapidity and of hemming him in demanded that everything which would jeopardize the movement should be sacrificed even at the cost of leaving four-fifths of the ambulance wagons. To delay the march so as to provide a full complement of these would have entailed a prolongation of the war which would have cost far more lives and suffering than has been already produced. When Bloemfontein was occupied the army had to depend entirely for its supplies on what it could carry. The railway to the south was in many places in the enemies' hands. Before supplies could be brought up, the Boers had to be driven from these places and the line repaired. Did Mr. Burdett-Coutts realize that to supply sufficient food to the troops was the most humane precaution to prevent the spread of disease, that food for the healthy was more important than beds for the sick?

At Southsea a very peculiar fatality occurred. A gentleman was undressing on the beach preparatory to bathing. There was a very cold wind and the man in shivering with the cold swallowed his artificial teeth which choked him. When picked up he was dead.

The outbreak of plague in Glasgow has caused considerable alarm at all the ports of the United Kingdom. Places as distant as Cork in Ireland have taken the most elaborate precautions and are even preparing special isolation hospitals. All the vessels trading with Glasgow are on arrival inspected by the medical officers of health. Dr. Jenkins, Commissioner of Health of New York, who is taking a holiday in Europe, was stopped in London by cable from his Board and ordered to Glasgow to enquire into the character of the outbreak so that the New York sanitary authorities may decide upon the prudence of closing commercial intercourse with Great Britain. Dr. Thomas of the United States Marine Hospital Service has arrived in Glasgow to watch American ships on the Clyde. The very strictest quarantine is now observed at Gravesend. It appears that the outbreak began at the end of June. A woman died in a flat on a Sunday and was "waked." Her death was not made known to the authorities until the following Thursday when the body was in a state of advanced decomposition. Two women who attended the "wake" contracted plague and died. The Health Committee of Glasgow have decided to set apart the district from the center of which the plague cases were drawn as a well defined area to be placed under sanitary control. All the inhabitants and their dwellings will be under the observation of officials who can enter a house suspected even of having a nuisance. Street cleanliness will be enforced and the houses limewashed and otherwise disinfected. Two extra medical practitioners will be appointed for the specially defined area. An offer will be made to inocu-

late with antiplague serum all the inhabitants who are willing. All the hospital officials and others who come in contact with cases of plague or suspected cases will be inoculated. The outbreak has had a very serious effect on the shipping. The collector of customs has refused to issue clean bills of health to steamers outward bound from Glasgow. Foreign countries, such as Spain and Denmark, have begun to impose quarantine on Glasgow vessels.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fiftieth Annual Meeting, Held at Wilkes-Barre, September 18, 19, and 20, 1900.

FIRST DAY—SEPTEMBER 18TH.

THE society was called to order by the president, Dr. Geo. W. Guthrie of Wilkes-Barre, and addresses of welcome were delivered by Hon. F. M. Nichols, mayor of the city of Wilkes-Barre, and Dr. H. M. Neale, of Upper Lehigh, president of the Luzerne County Medical Society. The reports of the officers of the Society and of various committees were then read and the business of the meeting transacted.

Early Diagnosis and Treatment of Tuberculosis.—Dr. Charles Rea of Philadelphia considers that of the early symptoms the short, hacking cough, accompanied by a regular afternoon rise in temperature, is of great significance. Another important sign is the increased pulse-rate, with diminished arterial tension, while gastric disturbances are frequently observed and always to be carefully considered. In obscure cases the past history, hereditary taint, etc., are of much greater value in arriving at a diagnosis than the physical signs, which are often misleading. Of the newer aids the use of tuberculin is never free from the risk of lighting up a latent lesion, and the results of skiagraphy requires such skilled interpretation as to put the method out of the province of the general practitioner. The treatment consists in providing for an abundance of pure air and nitrogenous diet with change of climate, although the discomforts of travel often more than offset its advantages. Of remedial measures the intrapulmonary application of creosote by the nebulizer is most useful.

Antipneumonic Serum.—Dr. Edwin Rosenthal of Philadelphia said that no treatment was to be considered specific for all types of cases. In croupous pneumonia an approach to specific treatment seemed possible. Serum treatment must be begun early if it is to be of any service whatever. The side affected has been chosen for the injections. Twenty cc. of the serum is injected by means of an antitoxin syringe, the aperture being then closed by collodion. The dose can be repeated in from five to six hours. Temperature over 103° F. is an indication for the giving of the treatment. The use of the serum does not interfere with other treatment. (Dr. Rosenthal's paper will appear in full in the MEDICAL NEWS.)

Old-Time Treatment of Typhoid Fever.—By this Dr. W. H. Hartzell of Allentown means the methods in vogue prior to 1875. Three different stages of development may be noted, one up to 1860 when reliance was placed almost entirely on such drugs as digitalis, aconite, potassium iodide, silver nitrate, turpentine, etc., with an average mortality of 27 per cent.; another up to 1866, the period of incomplete antipyresis, with a death-rate of 16 per cent. and, finally, the time of systematic antipyresis lasting until 1875 and showing a mortality of 8 per cent. In the discussion Dr. A. A. Eshner of Philadelphia condemned the tendency of the rigid adherents of the Brand treatment to make hydrotherapy a stereotyped measure to be carried out without variation, regardless of the needs of the individual case. In every instance the procedure should be modified as the patient's condition seems to demand; it is better to get slight drops at short intervals than greater ones less frequently. Dr. Koenig of Pittsburgh advised the giving of large amounts of water, for in cases where the secretion of urine is free the prognosis is always good.

Lecturing Not Teaching.—Dr. T. D. Davis of Pittsburgh advocated a radical change in the present methods of medical instruction. Four years is ample time in which to acquire a medical education, in spite of the large percentage of failures at every State Board examination, but more real teaching should be done. The average college lecturer is very far from being a pedagog, and furthermore the disparities in the mental equipment of the students making up his audience are so great that no lecture in the first year can fully benefit all of them. During the first two years of college the work should all be done in recitations or quizzes and the minds of the students would then be sufficiently trained to hear lectures with profit.

The Human Temperaments.—Dr. J. C. Bateson of Scranton discussed the significance of the different psychological types in the practice of medicine. A true appreciation of the needs of the body can be arrived at only by a study of its relation to mental states and a knowledge of temperament as that of physiology.

Nervous and Electrical Energy.—Dr. J. Emmet O'Brien believes that nervous energy is the same as electrical energy and showed the relationship existing between the nervous mechanism and many forms of electrical machinery. Nerves are constructed like electric cables. They are insulated, distributed and arranged like fine electric conductors. Their purpose and use are the same as the purpose and use of electric conductors, namely, communication from point to point. They convey some form of force because: Electricity is always present when they act. Be-

cause it is the form of force that would do the work required. Because it is the form of force that would work with such construction. Because the terminal and central mechanisms connected with the nerves correspond to the terminal and central mechanisms connected with electric systems of communication and do similar work in sending, receiving, relaying, switching, transforming, accumulating, retarding, discharging, concentrating, distributing and translating impressions. Finally, because electricity is the only form of force that we know of that would do all the work required, with such construction of conductors and of terminal mechanisms. He concludes that nerve-force is electricity; that it is produced in the nervous system by chemical processes analogous to those which produce heat in the general tissues, *i. e.*, oxidation; and that it would advance knowledge of the nervous system and its functions to acknowledge this proposition, at least a working hypothesis.

Meningitis Complicating Pneumonia.—Dr. T. C. Ely of Philadelphia reported a case of recovery from this usually fatal combination. The patient was a boy of six years whose pneumonia was at first croupous and then became lobar. The meningeal symptoms set in on the twenty-third day and pneumococci, streptococci and staphylococci were found present.

Raynaud's Disease.—Dr. Judson Daland of Philadelphia presented the clinical history of a case of this disease. The patient was a woman of forty-three years who had had her hands and feet frozen twenty-one years previously and when seen was suffering in her fingers, toes and face. Under six months of massage and bathing her condition had improved somewhat. The urine had contained sugar for a period of three weeks with an excess of indican and an occasional trace of acetone but never any albumin.

The Diagnosis of Ectopic Gestation.—Dr. J. M. Baldy of Philadelphia reported a case for the purpose of calling attention to the absence of a sign usually considered diagnostic. The patient missed a menstruation in June and suffered from severe abdominal pains during July, August and September. At this time she was operated on and found to have a tubal pregnancy about three months old. At no time was there any vaginal or uterine bleeding, which shows that cases do exist in which the uterus makes no effort to throw off the decidua.

SECOND DAY—SEPTEMBER 19TH.

Fracture of the Spine.—This was the title of the address in surgery read by Dr. Walter Lathrop of Hazleton. In the mining regions such fractures are very common. The dorsolumbar region is most often involved. Paralysis below the seat of the injury with pains radiating or circumscribed are the most prominent symptoms. Laminectomy was recommended highly. Infection is the greatest danger. After-treatment of the oozing is very important. He described a number of patients operated on, all with partial success.

Symposium on Typhoid Fever.—"History and Statistics" was the title of a paper by Dr. J. M. Anders of Philadelphia read by Dr. Taylor of Wilkes-Barre in the absence of the writer. As late as the beginning of the present century typhoid and typhus were still undifferentiated and no distinction between the two was made, some abnormal forms of the disease being recognized, but considered simply as aberrant types. It was Louis of Paris who in 1829 first resolved the complex clinical picture into its two components and his American pupils, Gerhardt of Philadelphia and Jas. Jackson, Sr., of Boston, further developed the subject in this country. In England the old teaching prevailed until 1849 when Dr. Wm. Jenner advocated the recognition of typhoid as a separate entity, and a little later this view met with universal acceptance all over Europe. The most noteworthy feature of the disease as observed in recent years has been the persistence with which it attacks large bodies of men aggregated under poor sanitary conditions, as in military camps. In all the late wars it has been a prominent factor in raising the death-rate and the conditions of camp-life appear to be such that the outbreak of epidemics is inevitable. During the Spanish-American war it developed apparently spontaneously regardless of climate or locality and often without being preceded by dysentery. In the one encampment at Chickamauga over 9,000 cases came under treatment with a mortality of 713.

Etiology.—Dr. Chas. H. Miner of Wilkes-Barre described the biological and morphological characteristics of the typhoid bacillus and discussed the various means by which the infection is conveyed. Of these contaminated water is the most frequent, milk also often conveys the disease, usually through the washing of cans with impure water. Oysters fattened in fresh water may perform a like office and flies after crawling over the contents of latrines may infect food or convey the bacillus directly. Personal contact apparently does not carry danger with it, except under such conditions as prevail in military encampments where through the enforced close association and lack of conveniences the chances of infection are very much greater.

Complications and Sequelae.—Dr. H. A. Hare of Philadelphia drew attention to the fact that the typhoid of to-day is markedly different from that of former years. Text-book descriptions give the picture of a typical case, but in everyday practice one meets with very unusual forms. In its onset the disease is often acute rather than slow and constipation is commoner than diarrhea. The temperature-curve, instead of being the classic step-like ascent, often goes up with a rush and chills and fever simulating a malarial infection may be present. The cases in which the onset is sudden and overwhelming do not necessarily justify a bad prognosis, but are more often those in which active systemic antagonism

to the poison is going on and are likely to end in quick and uncomplicated recovery. In mild cases the invasion may be very gradual and the constitutional disturbance slight, so that errors in diagnosis frequently occur. The most common mistake is to take typhoid for gastroenteric fever which happens especially often in children who are not at all exempt, the common idea to the contrary notwithstanding. Instead of running its usual three- or four-week course, abortive forms are frequent in which convalescence begins in ten days or two weeks. All of these considerations show definitely that the disease is undergoing very decided alterations in its nature. In England the health reports of London, Manchester and other large cities show a constant decrease in the virulence of the disease and this same fact is very strikingly shown by the statistics of the last decade in Philadelphia and New York. Here a progressive diminution in morbidity and mortality was observed until the time of the Spanish-American war, when there was an enormous increase in frequency but an actual drop in the death-rate. This can mean only a very remarkable alteration in the nature of the disease, either a greatly decreased virulence or a rise in the resisting power of the organism to the typhoid toxin.

Treatment of Typhoid.—Dr. Alfred Stengel of Philadelphia said that we are forced to admit that we have no specific remedy at our command for the cure of typhoid. Hence our treatment has to be mainly directed toward supporting the patient and avoiding complications. In order to accomplish this it is of importance to supply a sufficiency of nourishment and in regard to feeding views are undergoing radical changes. Hydrotherapy intelligently applied is the most valuable form of treatment, but it is necessary to avoid its rigid application without regard to individual needs. Not every case needs it or is benefited by it and, especially in private practice, it has often to be omitted. Wherever the aversion of the patient is very great or the suffering produced by the tubbing is severe, it is better to do without it. The objections of friends, much shivering or nervousness and the hysterical and nervous outbreaks which sometimes occur also contraindicate it. Peritonitis and hemorrhage are complications that debar tubbing. The temperature of the water is to be regulated entirely by the way the patient stands the bath and the condition of his circulation before and after. Usually it is well to have it between 80° and 90° F. The tubs should come once in 3 hours if the temperature goes above 102.4° F.; if below this point but still above 101° F. sponging is indicated. The idea that if the temperature is below 102° F. it is not necessary to do anything in the way of hydrotherapy is fallacious, for, although the antipyresis produced is of undoubted value, many other advantages accrue from its use and some of the more mild and less troublesome forms should be resorted to. The length of time each bath is to be continued should be governed by the same considerations as the temperature and frequency and should be varied in each case according to individual conditions. Cardiac stimulants are always required, and of these the bath is the most potent and satisfactory. In addition alcohol may be required, but the prevalent tendency to the administration of large doses is to be strongly deprecated. Small doses, two drams, of brandy or whisky should be given, and if moderate quantities do not suffice no good is to be attained by the use of large amounts. Strychnine is a valuable adjuvant to the alcohol and may be advantageously used with it in alternate doses. In extreme cases camphor is without an equal and may be given hypodermatically in doses of one grain dissolved in fifteen minims of olive oil. Intestinal antisepsis limits the frequency of complications; silver nitrate may be given combined with opium if there is diarrhea and with belladonna or nux vomica if constipation is present.

Medical Laws of Pennsylvania.—Dr. W. H. Dudley of Easton read this paper. He said: The honest physician obeys the law; graduates in due and proper form; goes before the State Board of Medical Examiners, and either passes or fails to pass, and tries again; all of which he does at a considerable expenditure of time and cash. In looking back over the past few years, since our present medical law has been upon the statute books, there appears—at least in our section of the State—to be a growing disregard for it. For, although at first it did seem to have a certain amount of restraining influence upon the illegal doctor, that influence appears to be growing slowly, though nevertheless surely less and less. In the discussion Dr. Chas. McIntire of Easton said that the weak points of the present system lie in the facts that there are no official records of those entitled to practise medicine and that there is no official body to prosecute infringers.

Some Medico-Legal Cases.—Dr. T. M. T. McKennan of Pittsburgh divides the cases in which suits are brought into three classes: (1) Those in which there is severe primary injury, *e. g.*, fractures; (2) those in which an apparently slight injury is after some lapse of time followed by nervous symptoms, *i. e.*, traumatic neurasthenia; (3) those in which the injury is slight or there is none at all and the symptoms are exaggerated or entirely assumed. In illustration of the first class five case-histories were given in which recovery followed within two years after a pecuniary award for incurable injury had been made. Out of eleven cases of the second class a large part recovered or improved greatly inside of two years. In these cases the damage is mainly psychical and the element of actual trauma is but slight. The third class, that of malingerers, is easy to detect and recovers speedily after the pecuniary remedy. In the discussion Dr. Judson Daland of Philadelphia related a case of undoubted traumatic hysteria which persisted eight years after a judgment of $10,000

had been obtained. Dr. M. Price of Philadelphia urged the necessity of great care in giving medical testimony in cases of this sort in which the results often entirely refute the prognosis of the expert and bring the profession into disrepute. Dr. Weaver of Wilkes-Barre said that a neurosis is by no means the natural sequence of severe trauma, a study of 14,000 railroad employees who were seriously injured, but, of course, not able to claim damages, showed only eight instances of this disorder, while of the passengers injured on the same road over twenty per cent. were affected. Drs. Gibbons of Scranton, Davis of Pittsburgh, Pearce of Philadelphia and Bailey of Pittsburgh all considered the question of medical expert testimony and advised great caution on the part of the physician when summoned for this purpose. Dr. A. A. Eshner of Philadelphia said that the effect of suggestion might explain some of the cures of nervous troubles soon after an award of damages. Dr. McKennan closed the discussion by saying that the object of his paper was to show the existence of a definite class of cases to be grouped as traumatic neuroses and caused by psychical rather than physical trauma.

Remedies in Phthisis.—Dr. T. J. Mays of Philadelphia believes that pulmonary tuberculosis is essentially a disease of exhaustion which advances and recedes with the patient's strength, so that rest is of the greatest value in the treatment. The second factor is food, nutritious and easily digestible, given in small amounts at frequent intervals. The possibility of supplementing mouth-feeding by the rectal administration of food should not be forgotten. Fresh blood and suppositories of scraped beef are well absorbed by this route. Strychnine in small doses raises the tone of the nervous system and is of service. Hypodermatic injection of silver nitrate over the course of the vagus nerves in the neck stimulates these by counterirritation and affects the disease favorably. A few minims of cocaine solution are injected and then through the same syringe five minims of a two-and-a-half-per-cent. solution of silver nitrate are thrown in. Dr. S. Solis Cohen of Philadelphia in discussing the paper said that it is very advantageous to give the strychnine in doses of 1/120-1/150 every hour, as by this means the system is constantly under its influence. Red meats have the most food value; the stomach should be flushed with hot water an hour before meals. Open air night and day is to be advised wherever feasible, even for bedridden patients.

Treatment of Appendicitis.—Dr. M. Price of Philadelphia said that all cases of appendicitis are laws unto themselves and that generalizations as to what to do for appendicitis are futile. Pus can never be removed by medicines and pus cases invariably require operative treatment. Operations on patients who are practically moribund are mistakes. The great mortality lies in just this direction and comparisons between different operators are of little value, as a rule, because of the various points of view assumed by the different operators. After-treatment also has to be borne in mind in the interpretation of results. Dr. R. H. Gibbon of Scranton in discussion said that the curse of surgical treatment is the necessity for drainage, a condition often brought about by waiting too long. The first hint that pus is coming should determine immediate operation. Dr. G. G. Davis of Philadelphia said that there is no question that a great eagerness for operating was deplorable. In straight cases there can be no question as to the advisability of operation, but in cases of uncertain diagnosis great caution should be exercised. Ileocolitis is the greatest factor in mistaken diagnoses. Dr. J. M. Baldy of Philadelphia, commenting on the question of the removal of healthy appendices, said that there are numerous patients with persistent trouble who recover absolutely on removal of the appendix and yet not a trace of lesion has been found in the appendix. In such cases the results are more valuable than the record of pathologic alterations. Drainage is to be avoided. Nine cases out of ten requiring drainage develop pus. One should not search more than fifteen minutes for an appendix. Break up adhesions if necessary.

Puerperal Infection.—Dr. C. P. Noble of Philadelphia gave the address on obstetrics, taking as his main theme the prevention of puerperal sepsis. Early generalizations regarding methods of uterine disinfection were too broad. Conservative methods are now more in vogue. Better methods of treatment employed in the cities have brought about a much lowered mortality. There is too great mortality in general country practice and this is indicative of the fact that the rank and file of physicians are not practising antiseptic midwifery. The most important item in good obstetrical work is cleanliness of the hands. He cleans the external genitals, the hands, the hands of the nurse and the instruments, by the most rigorous methods. Intra-uterine douching is held to be a bad procedure. It fails to disinfect and interferes with natural methods of self-protection. Cæsarean section was also discussed by Dr. Noble. He said that the rights of the unborn child are to be taken more into consideration and since this operation had proven less and less fatal under good technic, it is to be more and more relied upon in approximate cases. European statistics are much better than ours, since here the operation is performed generally as a last resort. Careful mensuration of the woman's pelvis and of the child before labor would save many lives.

Prophylaxis in Gynecology.—This was also dwelt upon in the address. Careful attention should be paid to (1) development of the organs of patient; (2) to childbirth accidents; (3) to infections and (4) to tumors. In the first place many obscure neurotic patients have faultily developed generative organs. Infantile cervices are impor-

tant factors. Childbirth accidents, lacerations, etc., should be repaired at once. The most important infection is gonorrhea. Here instruction is an important item, as few of the laity realize the far-reaching importance of this apparently simple disease. In the matter of removal of tumors, conservative surgery is gaining ground yearly. Myomectomies are preferable to hysterectomies and the removal of healthy ovaries for the cure of nervous disease is a reprehensible procedure.

Appendicitis in Child.—Dr. Guthrie of Wilkes-Barre then showed a child of two years who had been operated on for appendicitis. The result was excellent.

Applied Anatomy Teaching.—Dr. G. G. Davis of Philadelphia advocated the more extensive teaching of applied anatomy in our medical schools. Descriptive anatomy, while being the foundation of all medical works, is too much taught and its practical applications in surgery neglected. The tendencies of modern teaching are to practical methods. The teaching of anatomy should keep abreast of the times. Dr. Beattie of Philadelphia heartily endorsed the ideas of Dr. Davis and gave his experiences with the applicants for State Board examinations. Medical reciprocity will become an established fact as soon as there is a systematization of the courses in the curricula.

Surgery of Gall-Bladder.—Dr. O. C. Gaub of Pittsburgh read a paper on this subject, considering only those cases in which there is patency of the hepatic and common ducts. He believes in the infectious origin of gall-stones in which connection cholelithiasis following typhoid is an interesting sequence. Hepatic colic is a result, not of the passage of a gall-stone, but of the cholecystitis. One attack of colic disposes to others. He advocated the operation of cholecystectomy as the best, because the diseased organ is removed, convalescence is shorter and there is not any greater mortality. The indications for operation are hydrops, empyema, chronic inflammation and carcinoma.

Removable Buried Suture.—Dr. Evan O'Neil Kane of Kane then described an ingenious method of using a buried deep silver suture which can be readily removed.

Tuberculosis of Bladder.—Dr. F. P. Ball said that, although this disease is comparatively rare, its early recognition is so important that any differential diagnostic features are of interest. Pain in the rectum and in the middle of the penis was present in a case reported. There also was pain when the bladder was full rather than when it was empty. Dr. Noble in discussion said that both the diagnosis and treatment of this condition are simpler in women than in men, since cystoscopy is so much easier. Patients can be cured when the disease is not too extensive by the local application of silver nitrate. This is best applied through Kelly's cystoscope, thorough cauterization being followed by after-washing with salt solution. Vesicovaginal fistulæ, with steady applications of silver and thorough drainage, also cure at times. Excision is to be recommended in severe grades of the disease. Dr. Baldy said that the finding of the bacillus is necessary to confirm the diagnosis; without such confirmation he would hesitate to say that he had cured a tuberculous ulcer of the bladder by any other method than that of entire excision. The early use of the cystoscope should be more extensively practised.

Silver Nitrate in Dermatology.—Dr. J. C. Dunn of Pittsburgh has found that silver nitrate in solution, grs. v-℥i, and locally applied is an excellent stimulant in eczema, all forms of which, as well as psoriasis, yielding to this application. It is well to apply chrysarobin and salicylic acid to one side of the body and the silver nitrate to the other and after a week let the patient decide which he likes best and desires to continue. Other diseases cured by this application are erythema, acne, herpes zoster, impetigo, lichen planus, and apparently a beginning epithelioma. In inflammatory or parasitic skin diseases no other drug is so good as silver nitrate, which seems to have an alterative effect on the nutrition of the skin.

Constipation or Obstipation.—Dr. William M. Beach of Pittsburgh under this heading describes the operation of valvotomy which is nearly always curative in its effect. Either one or more of the rectal valves may be removed, the operation being done through a four-inch protoscope. The valve is first sprayed with cocaine solution and then a solution of suprarenal extract is applied. It is then put on the stretch by the insertion of a tenaculum at either end and the desired part removed with a small curved knife. Gunshot sutures are applied and a firm tampon inserted. The dangers are from the bleeding, which is usually very free but may be greatly diminished by the use of the adrenal extract, and from peritonitis following a chance cut through the rectal wall into the peritoneal cavity.

Roentgen Method.—Dr. Chas. Leonard of Philadelphia considers skiagraphy one of the most valuable adjuncts to the ordinary means of diagnosis, but skill is needed in order to profit fully by it or even to interpret accurately its meanings. The Röntgen-ray operator requires the broadest sort of knowledge; he must be a thorough anatomist, a skilful clinician, and, in order to master the difficult technic, must have had wide electrical and mechanical training. The findings of the X-rays are absolutely accurate because founded on physical laws, and errors that arise are due solely to faulty interpretation. In general the surgical applicability of the rays lies in the location of foreign bodies in the tissues, the detection and control of fractures, in determining the nature and extent of orthopedic conditions, in diagnosticating new growths, and, finally, in differentiating calculi in the uropoietic system. In the trunk and head difficulties still

exist and although fractures may be detected it is not always possible to exclude them. It is especially in the case of compound fractures that the rays are of practical value, for extensive exploration of the wound may be dispensed with and the patient be spared pain and the vitality of the tissues not further jeopardized. In cases of suspected renal, ureteral or vesical calculus an absolute diagnosis may be made and the stone positively detected or excluded. In 90 cases subjected to this test a stone was present in only 20; of these the smallest weighed 9/10 of a grain and the largest one was two inches in length. In the discussion Dr. Culp asked whether small calculi, especially those of uric acid, could not easily be overlooked. Dr. Leonard said that in his experience there was no such risk and referred to the smaller stone above mentioned which was a uric acid calculus. In doing work on the kidneys it is essential to use a low-tension tube.

Paralysis Agitans Without Tremor.—Dr. A. A. Eshner of Philadelphia called attention to the fact that many diseases receive their designation from symptoms supposed to be characteristic but which in reality are not constant. Thus we sometimes see typhoid fever without either the typhoid state or fever, smallpox without the exanthem, exophthalmic goiter without protrusion of the eye balls or tumor of the thyroid and paralysis agitans without the tremor or the typical pill-rolling, pen-holding or wool-spinning movements. In such cases the diagnosis must rest on other signs, *viz.*, the expressionless face, the subjective feeling of heat, sweating, restlessness necessitating frequent change of posture, the festinating gait and absence of mental symptoms other than the loss of memory sometimes observed.

Tuberculous Adenitis.—Dr. L. J. Hammond of Philadelphia divides the treatment of tuberculous glands into two forms, constitutional and surgical. Under the first heading fresh air, sunlight and exercise, combined with abundance of pure food, are of the greatest importance. Of the drugs to be used the most suitable are strychnine, quinine, iron, potassium salts and cod-liver oil, the latter being best applied by inunction. Surgically the disease is to be treated in three stages, the glands, the abscess and the sinus. The glands, if small and in the early stages, may yield to medical treatment and inunction with iodoform or the injection of a twenty-five-per-cent. solution of glycerole of iodoform. If this is not successful, or if there is a tendency to softening, they should be removed by dissection, avoiding breaking the capsule if possible. If abscess-formation has already taken place incise and evacuate and then irrigate with 1/1000 bichloride solution. The incision should be a free one and thorough curettage of the granulation-tissue done. Primary union may sometimes be secured by omitting packing and bringing the parts together at once and applying an immobilizing dressing. Sinuses should be excised and their edges curetted.

Dr. J. A. Ehler of Lancaster exhibited and presented to the Society a portrait of Dr. J. L. Atlee, who in 1848 did the first ovariotomy performed in the State, together with a pamphlet by the operator describing the operation.

THIRD DAY—SEPTEMBER 20TH.

Hygiene.—The address in hygiene was delivered by Dr. Joseph T. Rothrock of West Chester, State Commissioner in Forestry. He said that it was not an impossibility for the State supply of water to fail, and he insisted on the important relations existing between forests and water supplies. With reference to the question of tuberculosis he pointed out the inconsistency of not permitting tuberculous cattle to be imported into the State and yet no provisions were made against the entrance of tuberculous human beings. The State forest reservations were spoken of as ideal places for the tuberculous and he advocated them as proper resorts for State hospitals.

Bacterial Purification of Sewage.—Dr. D. H. Bergey of Philadelphia described briefly the two systems of sewage-disposal which at present seem to give most satisfactory results, *viz.*, the separate-tank system and the contact system. The technical difficulties in the way of maintaining sand filter-beds in satisfactory operation are so great that other means had to be looked for and these two seem to answer the requirements. In the first the sewage is kept for sometime in a large air-tight tank where the liquefying bacteria dispose of a large amount of the organic matter and from here it is passed onto filter-beds in which the nitrifying bacteria complete the work. In the contact system two open tanks are employed each containing from three to six feet of coke or clay. After being kept in the first of these for from one to two hours the sewage is discharged into the second from which the effluent emerges with seventy-seven to eighty-three per cent. of its organic matter converted. Either of these two processes is more efficient and practical than any filtration method. Dr. R. H. Gibbons of Scranton said that Pittston had suffered greatly from epidemics of typhoid until its water supply was changed and no longer contaminated by the sewage of Scranton. Dr. G. W. Guthrie of Wilkes-Barre cited Atlantic City, N. J., as having admirable sanitary arrangements inasmuch as the sewage is disposed of by sand contact-beds two miles inland and the water supply is derived largely from artesian wells. In closing the discussion Dr. Bergey said that the installation at Atlantic City was not a true contact system and not wholly satisfactory.

Higher Physiology.—Dr. E. N. Ritter of Williamsport made a plea for the same care and judgment in breeding and bringing up members of the human race as is exercised in the management of cultivated plants and the domestic animals. Vast numbers of persons who are physically and mentally unfit enter the married

state, conception takes place under adverse conditions, the hygiene of pregnancy is not observed and the result is that prisons and hospitals are full of individuals bodily and morally tainted from birth. Maternal impressions are of the highest importance in laying the foundation for a fine mental constitution and the best time to mold character is before birth. Another important problem consists in the sexual education of the young which, if properly done, never leads to harm. Dr. Bates congratulated the speaker on her bravery in taking up this topic and referred to recent attempts in Ohio to make medical examination of the contracting parties a legal preliminary to the granting of the marriage license. Dr. Massey considered that the education of women in regard to the functions of maternity was too much neglected and that it was especially the woman physician who could remedy the deficiency. Women should be warned of the dangers of marrying unexamined men, things tending to produce dangerous maternal impressions, such as some gaudy advertisements and posters should be removed from the streets and young people about to marry should be fully instructed as to the responsibilities involved in the bringing forth of children. Dr. Myers of Huntington cited the case of a couple in New York from whom a race of 200 criminals had sprung. In prisons and penitentiaries the inmates with acquired criminal tendencies should be kept separate from congenital malefactors and the latter castrated. Further comments were made by Drs. Gibbons and Koenig followed by Dr. Bishop who said that the idea of maternal impressions influencing the character of the fetus was a fallacy and that prematrimonial examination was degrading and not to be tolerated.

Sanitary Milk for Children.—Dr. B. H. Detwiler of Williamsport reported on an experiment he is conducting with the view of producing a sanitary milk for children. The milk of cows periodically undergoing sexual excitement is irritating and often produces intestinal derangements in infants. It has been proposed by French authors to obtain a milk not subject to changes of this sort by spaying the cows, which continue to give milk for five or six years and then may be killed for beef. In the experiment made by the reader two cows had been spayed by the vaginal route a year ago with apparently satisfactory results, as far as milk production was concerned, although a longer time must elapse before definite conclusions can be drawn. Dr. D. H. Bergey of Philadelphia said that the chief danger in infants' milk is in the bacteria it contained, streptococci being especially apt to produce gastrointestinal disorders and that it would be interesting to see whether the operation proposed would affect this factor also or not. Dr. Alfred Stengel of Philadelphia said that improvement in the quality of the milk is to be reached only by changes in the existing dairy conditions. The milk richest in cream is not necessarily the best for infant feeding, for example, the Channel-island cow's milk is greatly valued for its high percentage of butter fat but is quite unsuitable for the rearing of babies. Dr. Detwiler closed the discussion by saying that certain of the inmates of the Danville Asylum who were fed almost exclusively on milk were subject to epidemics of digestive disorders which apparently could be due only to changes in the composition of the milk.

Cataphoric Treatment of Cancer.—Dr. G. B. Massey of Philadelphia stated that the object of this treatment was to deposit mercury in the nascent state in the growth and so to produce an area of complete necrosis and a surrounding zone of sterilization. This is accomplished by the use of a hollow gold positive electrode through which metallic mercury may be forced into the growth, the negative pole being a lead plate applied to the patient's back. Since 1893 he has treated 37 cases by this method with 10 cures, 3 doubtful results and 24 failures. Dr. G. E. Shoemaker of Philadelphia said that in this as in all methods intended to act by cauterization distant unrecognized foci could not be reached, and that there was no reason to suppose that diseased tissue could be differentiated from healthy by the process. Dr. Massey replied that the effect produced is not only a cauterization but that the mercury infiltrated the surrounding parts also.

Nausea and Vomiting of Pregnancy.—Dr. John M. Batten of Downingtown in his paper brought out the intimate interrelationship between heart, stomach and uterus. During pregnancy the pressure of the growing child stimulates the uterus and in turn the other organs are sympathetically deranged. The one cure for obstinate vomiting under these conditions lies in constant feeding, whenever awake during the night food should be taken, a substantial meal should be made before rising and three others should follow during the day.

Paroxysmal Delirium.—Dr. W. C. Hollopeter of Philadelphia called attention to the growing belief in autointoxication as the etiological factor in many pathological states and cited three cases of sudden cerebral disturbance apparently due to the absorption of septic products from the intestine. The patients were all children and after a longer or shorter duration of the mental symptoms, fever and prostration promptly recovered under copious colonic flushing and intestinal disinfection. Dr. Judson Daland of Philadelphia observed that the presence of large amounts of indican and acetone in the urine points strongly to this form of poisoning and that no doubt other similar substances are to be found, although we do not as yet possess the reactions to demonstrate their presence. Dr. Savery Pearce described a somewhat similar case in which mild delirium slowly developing with low fever in a child promptly responded to high injections and the wet pack.

Nephritis in Gynecological Practice.—Dr. George E. Shoemaker reviewed the predisposing causes to this affection especially associated with disease of the female pelvic viscera. The general conditions of pregnancy favor the development of kidney trouble, for example, the sagging of the anterior vaginal wall induces a secondary sacculation of the bladder leading to difficulty in emptying it and decomposition of the urine which explains many cases of nephritis. Gonorrhea, sitting on the cold or damp ground, catheter cystitis, chronic pelvic inflammations, the wearing of thin-soled shoes and unsuitable underwear in winter, all may induce the disease. Ether anesthesia may light up a latent nephritis and atypical uremic symptoms after operation may simulate sepsis. If a major operation is imperatively called for the presence of nephritis does not contraindicate its performance, but greater caution and watchfulness are necessary.

Chronic Myocarditis.—Dr. John H. Musser of Philadelphia stated that the importance of this disease is rather greater than generally supposed and that valvular disease with a healthy heart muscle is not as serious as it is often considered. The symptoms of myocarditis are usually blended with those of concomitant lesions and the affection depends to a large extent on the same etiological moments as these. In general it may be divided into that secondary to pericarditis, following valvular disease, toxic myocarditis and fibrinous myocarditis or coronary-artery disease. This latter form usually accompanies general senility with a universal dulling of the sensibilities so that many of the typical symptoms are absent. In middle life, however, pain and dyspnea together with the Stokes-Adams syndrome of dyspnea, coma and slow pulse are frequently observed. Of the objective signs the peculiar sallow pallor with a prematurely old and wrinkled facies is very typical. On physical examination degenerated arteries and high tension are commonly found while in addition to the signs peculiar to myocarditis there may be those of either dilation or hypertrophy. Reduplication of the first sound is frequent and may be limited to the right or the left heart or be audible all over. Clinically the disease may occur either alone or with pulmonary, cardiac, cerebral or renal symptoms predominating.

Ovarian Hydrocele.—Dr. Reed Burns of Scranton described three cases of this condition which seemed to be due to an unusually deep ovarian fossa, retroflexion of the uterus and local plastic peritonitis.

Do We Resort Too Frequently to Surgical Operations?—Dr. R. H. Gibbons of Scranton considered some of the many conditions where operative treatment gave the only hope for the patient and concluded that the reproach that the surgeon was overzealous with the scalpel was not well founded.

Ophthalmology.—The annual address was delivered by Dr. Charles McIntire of Easton who drew a parallel between the advance of our modern social conditions and the growth of ophthalmological nomenclature. It is surprising how large a portion of the oculist's technical vocabulary consists of words beginning with *a* and in most instances it is the prefix of negation, the alpha privative. At the beginning of the century it was not so, amaurosis was the only word of this class and in this the initial letter is not a prefix, special knowledge was still in its infancy and instruments of precision were lacking; to an age without the ophthalmoscope things seemed simple and superficial because the ability to look below the surface was wanting. And in a similar way the conditions of life were less complex and existence seemed simpler because its possibilities were still in an undeveloped stage. But little by little the understanding broadened, the old-fashioned amaurosis became the *a*-metropia of Donders and the alpha privative began to make itself felt. And now asthenopia has come and with it countless other terms each negativing a function and typifying the conditions of our modern life where the alpha privative is constantly asserting itself, and telling of weakened organs and vital processes improperly performed. In this way the science of life and the science of the eye have gone hand in hand for a century, and as we look to the future we can only wonder what changes will come during the next hundred years and whether at their end the alpha privative will still be in the ascendant.

Electro-Magnet in Eye Surgery.—Dr. E. B. Heckel of Pittsburgh described a special form of electro-magnet possessing many advantages over those in common use. Among there are cheapness, lightness, ease of manipulation, a core of soft steel which requires an appreciable length of time to acquire its full power when the current is turned on, so that the pull exerted is less sudden, the ease with which the core may be removed for sterilization and the special form of tapering point which carries a maximum of magnetic force to the very end. In the use of electro-magnets in removing foreign bodies from perforating wounds of the eyeball it is important not to turn on the current until the point is in position and all adjustments have been made. Additional incisions into the chambers are not justifiable. Dr. J. E. Willets of Pittsburgh discussed the instrument and stated that it fulfilled every requirement perfectly. While it is not as powerful as are some that have been recommended great force is a danger rather than an advantage and the Heckel magnet is entirely satisfactory. Dr. L. H. Taylor of Wilkes-Barre described a case of foreign body imbedded in the retina which was sent to Dr. Hermann Knapp for treatment. The very powerful Haub magnet was used in this case, but the object was not dislodged. The next day it had disappeared from the ophthalmoscopic field and the patient was discharged under the supposition that it had slipped entirely through the posterior wall and

was out of harm's way. The event has apparently justified this view for the patient has almost entirely recovered the sight of the injured eye and experiences no discomfort.

Oculist and Optician; Physician and Public.—Dr. P. J. Kress stated that the public should be educated to recognize the difference between the oculist and the optician, which latter is usually little better than a quack. The proper fitting of glasses, like every other special branch of medical knowledge, requires a broad general training and cannot be properly performed by one bred only to the selling of spectacle-frames.

Dr. Charles H. Miner of Wilkes-Barre presented two cases of leukemia and pseudo-leukemia, showing the typical features of these diseases.

Surgery of Ear.—Dr. J. E. Willetts of Pittsburgh described an operation which consisted in removal of the tympanum and the ossicles with opening up of the mastoid cells if needed. If the discharge at any time seems to be greater than is accounted for by the disease of the middle ear, involvement of the mastoid should be suspected.

Climatology of Neurasthenia.—Dr. F. Savery Pearce of Philadelphia made a plea for greater exactitude in our knowledge of meteorological therapeutics and more definiteness in our directions to patients whom we are sending away. Neurasthenia is a malnutritional malady of the central nervous system and especially amenable to climatological treatment during convalescence. Damp, low, treeless regions are unsuitable, as are also high altitudes where the pressure is low. Altitudes below 2000 feet are usually to be recommended; whether sea air or mountain air depends largely on conditions of pressure, flora and idiosyncrasy. Localities where storms prevail are to be avoided. On this continent Nova Scotia, New Brunswick, Muskoka and the Ontario regions are to be especially recommended. Sea voyages make an excellent prelude to the longer stay in the selected locality.

Removal of Third Tonsil.—Dr. L. J. Lautenbach of Philadelphia described the operation as performed by him without anesthesia or instruments. The use of chloroform or ether in these cases is especially hazardous on account of the depraved general condition of the patients and many published and unpublished deaths have occurred from this cause. Instrumental operation no matter in what form done is always incomplete because it is impossible to feel whether all the tissue has been removed and therefore recurrence is common. Dr. Lautenbach's method is to curette the postnasal space with the fingernail, the artificial fingernail devised by him being employed if the growths are very resistant. Performed in this way the operation is quick, lasting only from ten to twenty seconds, is safe, easy, thorough, is done in one sitting, requires no instruments, causes no pain, shock or fright, and is entirely free from risk.

Animal Organisms in the Ear.—Dr. F. R. Packard of Philadelphia presented a résumé of the cases in the literature in which living animal organisms were removed from the external ear.

Typhoid.—Dr. James Fulton of New London read this paper, which considered in detail many interesting features of this disease.

Esophageal Stricture.—Dr. Charles H. Frazier's patient presented an impassible cicatricial stricture of the lower esophagus for which a gastrotomy with attempt at retrograde dilatation seemed the only remedy. As a last resort a series of silver balls, from two to seven millimeters in diameter and perforated to receive a thread, was procured. The patient was given the smallest of these fastened to a silk thread and directed to swallow it. After a number of hours it passed the stricture, was withdrawn and a larger size introduced. In this way the stenosis was gradually dilated till bougies could be introduced and a cure finally effected by dilatation.

REVIEWS.

Transactions of the American Microscopical Society. Vol. XXI. Edited by the Secretary, Twenty-second Annual Meeting. Lincoln, Neb., 1900.

THE *renaissance* of the American Microscopical Society is evidenced by this as well as by the volumes of Transactions of the past few years. From a mildly inefficient collection of amateur microscopists, publishing a few scattering contributions to popular science, the society has grown to represent an important body of scientific workers in the biological sciences and the Transactions offer monographs of actual merit. Interesting the Transactions always have been; they now present something more permanently useful to microscopical science. Of the papers more particularly bearing on medical science those by the President, Dr. W. Krauss, on "Medico-Legal Aspects of Trauma and Diseased Cerebral Arteries;" "Diabetic Blood Reactions," by V. A. Latham; "Chlamydomonas and its Effects on Water-Supplies," by G. C. Whipple; "Eyes of the Blind Vertebrates of North America and Some Laboratory Apparatus," by S. H. Gage, are the more interesting. Botanical and zoological contributions are numerous.

The Cell in Development and Inheritance. By EDMUND B. WILSON, Ph.D., Professor of Zoology, Columbia University. Second Edition Revised and Enlarged. The Macmillan Company: New York and London. $3.50.

WE have had occasion in a former issue of the MEDICAL NEWS to express the opinion that we believe this work to be the finest on its subject that has ever appeared. We do not except the works of Hertwig nor of Henneguey.

The present edition has been more than re-

vised. A careful reading shows that it has been rewritten and in its new form lays even greater claim to the high place accorded it. While for the general medical practitioner this work will be found to contain little that is of direct practical benefit, either in the diagnosis of disease or in the treatment of the same, for those inclined to ponder on the problems afforded by the study of the physiology and pathology of function no better guide can be found for a fundamental knowledge of the questions of cell-life. The careful and systematic mode of presentation argues well for the literary as well as technical skill of the author. He grasps the sense of perspective, subordinating many details to the general plan.

For those who would keep abreast of the advances in cell-biology the work is indispensable, and for those who take but a quasi-interest in the problems here considered we would predict an intellectual treat.

A Manual of Surgical Treatment. By W. WATSON CHEYNE, M.B., F.R.C.S., Professor of Surgery in King's College, London, Surgeon to King's College Hospital, etc., and F. F. BURGHARD, M.D., and M.S. (LOND.), F.R.C.S., Teacher of Practical Surgery in King's College, Surgeon to King's College Hospital, etc. Volume III. Philadelphia and New York: Lea Brothers & Co., 1900.

THE third volume of this eminently practical work deals with the treatment of the surgical diseases of the bones in its first part, and with amputations in its second. The authors, for considerations of space, have left the treatment of orthopedic diseases for the next volume. Indeed, they have decided to produce the work in seven volumes instead of six, as originally intended.

The authors fail to give consideration to the ambulatory treatment of fractures of the leg, a subject of increasing importance at the present moment. In other respects, their chapters on this phase of surgery is admirable and includes the constant injunction to verify the diagnosis and the correctness of position by the Roentgen rays. They correctly consider osteomyelitis and periostitis separately, although at variance with some pathologists who aver that the diseases are identical but represent different stages. The consideration given to tumors of the bones is terse, but is consistent with the intention of the authors to limit pathologic data to essential elements.

In the second division of the volume there is a full, modern paper on amputations from which is eliminated all unnecessary and burdensome material. It reflects purely the experience of the authors. As usual, the after-treatment of the patient is fully considered. The illustrations are copious, are especially well drawn, and are mostly original. This volume, it appears to us, must prove particularly valuable to the general practitioner as well as to the surgical specialist.

Simon's Clinical Diagnosis. A Manual of Clinical Diagnosis by Microscopical and Chemical Methods. For Students, Hospital Physicians and Practitioners. By CHARLES E. SIMON, M.D., late Assistant Resident Physician Johns Hopkins Hospital, Baltimore. Pp. 563. With 136 Engravings and 18 Full-Page Colored Plates. Cloth, $3.50 net. Lea Brothers & Co., Philadelphia and New York.

IT is a very encouraging sign of progress in scientific medicine in America for a text-book on clinical diagnosis to reach a third edition within four years. Time was when only books on treatment sold into more than two editions in less than five years. As a rule, publishers hesitate about taking text-books on diagnosis for publication at all. Dr. Simon's Manual is in its third edition and there seems no reason to think its popularity will wane. Not all text-books on diagnosis published in the last few years have had a like success, however, and it is a lesson in medical book-making to note the reasons why this manual has sold so well. The qualities that have given it its popularity are, first, its utter practicalness. Nothing is introduced for the sake of erudition, nor merely because it has been a subject of more or less limited discussion in certain medical circles. Secondly, its completeness. Nothing is omitted that the practitioner might find of assistance in eventually perfecting his diagnosis. The discussion of the subject of phosphates in the urine is a typical example of this completeness. This rather indefinite topic is handled in a way to give as clear ideas as possible to the practising physician in the present state of our knowledge of the subject. A third reason for the wide sale of the book is the beauty and significance of its illustrations. The colored plates of the blood are very excellent reproductions of well-prepared specimens. The presentation of the whole subject of the blood is such as might be expected from one of the Johns Hopkins school and more cannot be said. As might be anticipated the illustrations on malaria are well calculated to give correct notions for microscopic diagnosis of phases of malaria, even to those who have not had an opportunity to examine actual specimens.

The two plates on phenyl-glucosazon crystals obtained from diabetic urine and that on the color-reactions in different urines after the addition of the nitric-acid test are really very perfect specimens of the printer's art. It is a pleasure to chronicle the fact that books like this are being written and made (as the making has added greatly to its value) for the medical students and the practising profession in America. The author in his preface says he thinks that most of the volumes of preceding editions were taken by practitioners. This is an inspiring sign that the younger generation of practitioners is careful to let slip no opportunity to keep abreast of the advance in scientific medicine where progress touches practice.